DOCUMENT RESUME

ED 203 757 HE 014 010

AUTHOR Davison, Richard L.
TITLE North Dakota Postsecondary Education Enrollment, 1980-1990.
INSTITUTION North Dakota Postsecondary Education Commission, Bismarck.
PUB DATE Jul 80
NOTE 102p.
AVAILABLE FROM North Dakota Postsecondary Education Commission, Bismarck, ND 58505.

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Birth Rate; *College Students; *Elementary School Students; *Enrollment Projections; Graduate Students; *High School Students; In State Students; Migration Patterns; Out of State Students; *Population Trends; Postsecondary Education; State Surveys; Undergraduate Students
IDENTIFIERS *North Dakota

ABSTRACT

Projections for North Dakota postsecondary education enrollment for the 1980s are presented. Attention is directed to population-related factors such as the number of live births, patterns of migration, elementary school enrollment, the number of high school graduates, and the size of the adult population. Other factors affecting postsecondary enrollment, such as postsecondary entrance rates, tuition reciprocity among states, class progression rates, and economic factors, are also explored. Actual enrollment by grade by county from 1972-73 through 1979-80 was analyzed to produce a series of grade progression rates. The selected progression rates were applied to the fall 1979 enrollment to produce projections of elementary and secondary enrollment in 1980. The model yielded high school graduate projections for 1980 through 1995. A strategy was devised to project postsecondary enrollment for the state of North Dakota and the 13 institutions. Six categories of students are projected with special attention given to resident undergraduates. For each category of students, a projection of full-time enrollment as well as headcount was made. Undergraduate class progression rates were constructed in the same manner as the grade progression rates for the elementary/secondary model. Projections were also made for nonresidents for each school level, for special and unclassified students, for graduate and professional students, and for full- and part-time students. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

NORTH DAKOTA POSTSECONDARY EDUCATION ENROLLMENT 1980--1990

ED203757

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

N. D. Postsecondary Edu Commissio

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

JULY 1980

HE 014 010

Published by the North Dakota Postsecondary Education Commission, with funds provided under Section 1203 of the Higher Education Act of 1965 as amended in 1972.

NORTH DAKOTA

POSTSECONDARY

EDUCATION

ENROLLMENT

1980--1990

July 1980

PREPARED FOR:

NORTH DAKOTA
POSTSECONDARY EDUCATION COMMISSION

RICHARD L. DAVISON
EXECUTIVE DIRECTOR

AUDREY SUMNER, SECRETARY

BISMARCK, NORTH DAKOTA 58505

NORTH DAKOTA POSTSECONDARY EDUCATION COMMISSION

Lois Carter
Lisbon

Geraldine Clapp
Fargo

John H. Gengler
Richardton

Willard A. Greenleaf
Devils Lake

Jean Guy
Casselton

R. C. Hadlich
Grand Forks

Milton Hertz
Mott

Richard Hilborn
Durbin

Dale Hurt
New Salem

Carol Jacobson
Alamo

Arthur S. Johnson
Ray

Donald Lange
Webster

Gene Martin
Grand Forks

Robert P. Miller
Bismarck

Howard Snortland
Bismarck

Lester M. Stern
Wahpeton

S. Bryce Streibel
Fessenden

PREFACE

This study was undertaken to assist the Board of Higher Education, the institutions of higher education and local boards for public and private postsecondary institutions in their long-range planning process. The projections contained within this publication will be most useful to these agencies as well as other decision makers concerned with the enrollments in these institutions.

Dr. Hazel Reinhardt, a Minnesota-based demographer with a national reputation, was secured by the Commission to direct the study. Dr. Reinhardt's dedicated leadership and vast experience as a demographer was greatly appreciated by all who were involved in the study process. Her demand for precision is reflected throughout the publication.

Without the assistance of the state data processing administration through their South Computer Center and the outstanding work of Mr. J. B. West, Computer Consultant, the study could not have been completed.

The assistance of Dr. Ronald Torgeson, Director of Planning and Evaluation, Department of Public Instruction, in supplying base data, proof reading, design review and interacting during the process was most valuable.

There were many others involved in providing data, responding to patterns of migration and grade progression rates, including Messrs. Richard W. Blair, David Torkelson, Mike Zainhofsky, Tom Ostenson, Dean Monteith, Norbert Mayer and Tom Pederson. Their contributions were most helpful during the development of the study.

The cooperation of institutional leaders in responding to requests for data, verifying those data and reacting to study design, alternative assumptions and preliminary findings was greatly appreciated.

As project director, I appreciated the continuous efforts of all these people as well as those of my colleagues in the office of the Commissioner of Higher Education. Special credit must be given to Ms. Audrey Sumner for her general contribution to the preparation of both the format and the manuscript of this document.

Richard L. Davison

TABLE OF CONTENTS

		Page
Preface		iii
Definition of Terms		vii
Elementary and Secondary Enrollment Projections		2
Key Assumptions		5
Findings		5
Postsecondary Enrollment Projections		7
Key Assumptions		10
Undergraduates		11
Special and Unclassified Students		13
Graduate and Professional Students		15
Full Time/Part Time Projections		18
Findings		18
The Institutions		22

Tables

Table 1	North Dakota Adult Population	16
Table 2	North Dakota Postsecondary Enrollment Comparison 1979--1990	20

Figures

		Color
Figure 1	North Dakota Resident Live Births 1960--1978	Gold
Figure 2	North Dakota High School Graduates 1970--1995	Gold
Figure 3	Change in High School Graduates 1980--1990	Gold
Figure 4	Service Area--UND, NDSU, NDSSS	Gold
Figure 5	Service Area--Minot, Valley City, Dickinson, Mayville	Gold
Figure 6	Service Area--Mary College, Jamestown College, BJC, Lake Region	Gold
Figure 7	Service Area--NDSU-Bottineau, UND-Williston	Gold
Figure 8	North Dakota Postsecondary Enrollment 1979-1990	Gold
Figure 9	Full Time North Dakota Resident Undergraduate Enrollment 1979--1996	Gold

Appendices

Appendix A	North Dakota Resident Live Births by County 1960--1978	Pink
Appendix B	Projected North Dakota High School Graduates by County 1980--1995	Blue
Appendix C	Projected Full Time North Dakota Resident Undergraduate Enrollments by Varying Entrance Assumptions by Institution 1980--1990	Salmon

TABLE OF CONTENTS (cont.)

Appendices (cont.)

Appendix D	Projections	
	Projected Postsecondary Headcount 1980--1990	Green
	Projected Total Postsecondary Enrollment by Full Time and Headcount 1980--1990	Green
	Projected Full Time North Dakota Resident Undergraduate Enrollment 1980--1990	Green
	Projected Full Time Nonresident Undergraduate Enrollment 1980--1990	Green
	Projected Full Time Special and Unclassified Enrollment 1980--1990	Green
	Projected Full Time Graduate Enrollment 1980--1990	Green
Appendix E	Flow Diagrams	
	Full Time Postsecondary Enrollment Projections by State and by Institution	Yellow
	Elementary/Secondary Enrollment Model	Yellow
	Postsecondary Enrollment Model	Yellow

DEFINITION OF TERMS

Resident Student--Students having legal domicile in North Dakota for tuition purposes.

Nonresident Student--Students having legal domicile in a state other than North Dakota for tuition purposes.

Headcount Enrollment--All students enrolled at the institution as of the end of the third week of the enrollment term and receiving resident credit for courses that are included in the institutional timetable and taught by institutional faculty as a part of their normal load.

Full Time Student Enrollment--Undergraduate students enrolled in 12 student credit hours or more during the enrollment period. Graduate students enrolled in 10 student credit hours or more.

Part Time Student Enrollment--Undergraduate students enrolled in less than 12 student credit hours during the enrollment period. Graduate students enrolled in less than 10 student credit hours.

Special or Unclassified Student--Students that the institution has chosen not to assign a class rank for institutional reasons.

Professional Student--A student enrolled in the schools of law or medicine.

Graduate Student--A student holding a bachelor's degree who is enrolled in the graduate school.

Outreach--Courses and/or programs offered as a part of the regular institutional timetable at a site remote from the campus.

DEFINITION OF TERMS (cont.)

Full Time Equivalency--Student enrollment in an institution expressed in terms of the equivalent if all were full time enrollees. For purposes of this report the total student credit hours for the fall term were divided by 16 for undergraduates except vocational students for which 18 is considered the normal load. The graduate student credit hours were divided by 12 to determine the equivalency of a full time student enrollment.

Grade Progression Rate--A survival measure constructed by comparing the number of students in any grade in a given year to the number of students in the next highest grade the following year and dividing by 100. The grade progression rate is a proxy for migration, death and dropout.

Retention Rate--A measure of the institutions ability to retain students from year to year.

Opportunity Costs--An economic term referring to benefits foregone by expending resources (money, time) on alternative uses. Foregone benefits include such things as earnings, seniority, experience, career time, leisure, etc. Some literature exists on the opportunity costs of postsecondary schooling.

NORTH DAKOTA POSTSECONDARY EDUCATION ENROLLMENT

1980--1990

This document results from a study of postsecondary enrollment in North Dakota and the projection of that enrollment in the 1980s. To project postsecondary enrollment, the factors influencing that enrollment must be explored and analyzed. This report focuses on population related factors such as the number of live births, patterns of migration, elementary school enrollment, the number of high school graduates and the size of the adult population.

Other factors affecting postsecondary enrollment such as postsecondary entrance rates, tuition reciprocity among states, class progression rates and economic factors such as opportunity costs are also explored.

The data and findings of this study are presented in the spirit of making useful information available to decision makers.

Projections are not predictions of the future. They merely show the results of certain assumptions carried into the future.

Projections do not mandate any particular action. They simply provide a framework for planning and decision making.

While the statement that the future is unknown is a hackneyed truism, it is, nonetheless, important to remember when making, analyzing, and using projections. Yet, the future is not a total mystery. Elements of the future have already happened. Some aspects of the future are relatively clear; others are shadowy; while still others are unknown. The task of projecting is one of building on what is relatively clear, making assumptions about that which is shadowy and being humble about the unknown.

The projections contained in this document are guided by the following:

- social, economic and demographic theory or derivations that lend themselves to this task;
- relationships observed in the past;
- assumptions about the future; and the
- assumption that definitions of the various categories of students currently in use remain constant throughout the projection period.

These projections are designed to be long range, as compared to projections for next fall or a biennium. The goal is insight about the number of students five, ten and fifteen years into the future.

Like all projections, it is reasonable to expect that the farther into the projection period one moves, the greater the deterioration of the assumptions and, hence, the precision. Thus, the projections for the early 1980s have a greater probability of being on target than those of the early 1990s. Also, as is generally true for projections, the larger the unit reflected in the projection, the greater the likelihood of precision. Thus, the projections for the state of North Dakota are more likely to be accurate than the projections for any one county or institution.

What makes projections accurate? If the projection of any one year is equal to the actual enrollment of that year, it is mere coincidence. The performance of a projection should be judged by whether it correctly shows the direction of the trend and whether the projected rate of change is reasonably close to what occurs.

Elementary and Secondary Enrollment Projections

To make projections of North Dakota postsecondary enrollment, North Dakota high school graduates must be projected. To project North Dakota high school graduates, North Dakota elementary and secondary enrollment must be projected.

The factors affecting elementary and secondary enrollment are simple and understandable. Since school attendance is compulsory in North Dakota, the population between the ages of seven and sixteen is certain to be in the student pool for elementary and secondary schools. The number of births, the number of deaths in the child and youth population and the movement of families with preschool or school age children affect the size of the student pool. In addition, dropout can be a factor in secondary schools. In areas where population mobility is modest, births become the most important factor in determining the number of students. A 32 per cent decrease in the number of live births in North Dakota from 1960 to 1978 is a clue to the future level of enrollments. In the post-World War II period, births were at their lowest in 1973 (see Figure 1 and Appendix A).

Births by place of residence of the mother are registered in every state. Thus, the number of births by county by year is known. Deaths by age by county of residence by year are also recorded. However, the effect of death in the child and youth population is minimal and can be omitted as a practical consideration from elementary and secondary enrollment projections.

The movement of population from one area to another (migration) is not recorded. However, by comparing the number of students in a grade in one year to the number of students in the next highest grade in the following year, a proxy for migration can be developed. Such a measure may be called a grade progression rate. The grade progression rate is not only a proxy for migration, but also includes the effects of death and dropout. Progression rates for birth to grade 1 and grade 12 to high school graduate can be developed by a similar cohort matching technique.

For this project, the elementary and secondary enrollment projections were developed for counties, not individual school districts. The basic

data consisted of births by county of residence as recorded by the North Dakota Department of Health and actual elementary and secondary enrollment for all schools (public, nonpublic, Indian, etc.) by county as collected and tabulated by the North Dakota Department of Public Instruction.

Actual enrollment by grade by county from 1972-73 through 1979-80 was analyzed to produce a series of grade progression rates. Changes in grade progression rates were arrayed as averages of the last seven years, the last five years, the last three years, the last two years and the last year. Averages for the same time periods were computed for the birth to grade 1 progression and the grade 12 to high school graduate progression.

The selection of a progression rate by grade, birth to grade 1 and grade 12 to high school graduate for each county was made by a committee of North Dakotans. This committee was composed of members knowledgeable about agriculture, energy development, industrialization and elementary and secondary education in North Dakota. The progression rates selected generally are the same as or are similar to the progression rates of the late 1970s. The late 1970s are characterized by the ending of net out-migration from North Dakota. The selected rates, however, show net in-migration for some counties and net out-migration for other counties. In other words, there is some redistribution of population within North Dakota.

The selected progression rates were applied to the fall 1979 enrollment to produce projections of elementary and secondary enrollment in 1980. This process was repeated with 1980 as a base to produce projections for 1981. The model yielded high school graduates for 1980 through 1995. The graduates of 1995 were born in 1978. Only currently living individuals were included in the model base data. There was no speculation on future fertility or number of births.

Key Assumptions

In the projection of elementary and secondary enrollment and high school graduates, the key assumption is that the grade progression rates as selected, reflecting the experience of the late 1970s, will be in effect throughout the projection period.

It would be naive to believe that these rates, to the last thousandth of a decimal point, will be in effect every year between 1979 and 1995. But the selection strategy is based on the concept that the selected rates will be approximated during the projection period.

Many North Dakota counties have a small number of students at any individual grade. To impact on the projection when the base numbers are small, changes in progression rates must be substantial. Tinkering with grade progression rates at the hundredth or the thousandth of a decimal point does not produce appreciable changes in the projections.

North Dakota has two areas which include unique and potentially changing population--the Air Force bases at Minot and Grand Forks. No assumptions were made about changes in the personnel component at these Bases for the projection period.

Findings

The projections of elementary and secondary enrollment and high school graduates show the following:

- high school graduates decrease by 3,396, or 30%, from 1979 to 1990. The decrease in high school graduates is not as great as the decrease in their birth cohorts. From 1961 to 1972 (graduates of 1979-1990), births decreased by 6,500, or 39 per cent. Changes in migration and dropout account for almost all of the difference;
- the decrease varies by county; and
- high school graduates increase after 1992.

The decline in high school graduates is not steady throughout the projection period. The number of graduates is projected to decline from 11,278 to 7,716 during the years from 1979 through 1986. The number of graduates will drift upward until 1988 (births of 1970), then drift downward again, only to move upward after 1992. In spite of these fluctuations, in 1995 the number of graduates is 2,000 fewer than in 1979. If the number of births continue to increase, the number of high school graduates will continue to increase after 1995 (see Figure 2 and Appendix B).

The variation in the decrease in high school graduates by county is not only interesting in itself. It has implications for postsecondary enrollment by school since most schools serve or dominate regions or smaller geographies.

Over half of all counties show rates of decrease of high school graduates greater than the state average between 1980 and 1990. Ten counties show decreases of 50 per cent or more. Another 19 counties show decreases of 35 per cent to 49 per cent. Only two counties--McKenzie and Mercer--show increases in high school graduates. (Slope County residents are included in the enrollment of adjacent counties; therefore, no projections were made for Slope County.) Most of the counties with decreases less than the state average are located in western North Dakota (see Figure 3).

One-third of all high school graduates in North Dakota come from four counties--Cass, Burleigh, Ward and Grand Forks. Three of these counties show decreases similar to the state average; Burleigh County shows a decrease less than the state average. Over 50 per cent of all high school graduates matriculate in nine counties--the four previously mentioned plus Morton, Stark, Stutsman, Williams and Richland. This geographical concentration of high school graduates illustrates the sparsity of the youth population in much of North Dakota.

Postsecondary Enrollment Projections

While the factors influencing elementary and secondary enrollment are few and relatively clear, the factors influencing postsecondary enrollment are more numerous and more complex. The role of age is less precise than in elementary/secondary enrollment. However, the major factor affecting undergraduate enrollment is the number of high school graduates each year. In general, postsecondary enrollments have been affected by the number of persons 18 to 22 years of age.

Another major factor affecting undergraduate enrollment is the postsecondary entrance rate (the proportion of high school graduates going on, progressing, to postsecondary schools). The factors affecting the entrance rate are complex and not fully understood. One factor, obviously, is the value that the individual, his or her family and the society places on education. From all evidence, education is highly valued in North Dakota.

Economic factors are also important. Family income is important. The cost of education is important. Enrollment can be affected by conditions in the labor market such as the availability of jobs, real wages and the demand or perceived demand for certain skills. Going to school also entails opportunity costs. Opportunity costs refer to benefits foregone by expending resources (money, time) on alternative uses. Foregone benefits include such things as earnings, seniority, experience, career time, leisure, etc. Characteristics of the 1970s such as glut in the labor market, constant real wages and an inflationary economy, lower the opportunity costs of going to school.

Today, nearly an equal proportion of males and females go on to postsecondary institutions. This was not the case 20 or 30 years ago when the male entrance rate was higher. It does not seem likely that female participation will greatly outstrip male participation. Thus, differential progression rates by sex are not warranted.

Several characteristics of postsecondary enrollment in North Dakota affected the projection strategy. A high proportion of North Dakota high school graduates already go on to some form of postsecondary education. Whether this proportion can be increased is open to question. This issue led to the decision to make three projections of North Dakota resident undergraduates, each employing a different assumption on the proportion of high school graduates going on to a postsecondary school (see Appendix C).

Another important characteristic of North Dakota higher education is the role played by nonresident students. In the Fall of 1979, 23 per cent of all postsecondary students were nonresidents. Nonresident students comprise about a third of the total headcount enrollment at the University of North Dakota, North Dakota State University and Jamestown College. About one-fifth of all students at the North Dakota State School of Science are nonresidents. At all of the other institutions the per cent of nonresidents is more modest.

Finally, most North Dakota institutions of higher education are regional--their service area or the area which they dominate is a set of counties contiguous to the county in which the institution is located. (A rough measure of the service is the proportion of freshmen enrolled at each institution from each North Dakota county.) Only three institutions have statewide service areas--the University of North Dakota, North Dakota State University and the North Dakota State School of Science (see Figures 4-7).

Based on these observations, a strategy was devised to project postsecondary enrollment for the state of North Dakota and the 13 institutions. The 13 institutions are: University of North Dakota, North Dakota State University, Minot State College, Valley City State College, Dickinson State College, Mayville State College, Mary College, Jamestown College, North

Dakota State School of Science, Bismarck Junior College, Lake Region Junior College, University of North Dakota-Williston Center (UND-Williston Center) and North Dakota State University-Bottineau Branch (NDSU-Bottineau Branch).

Six categories of students are projected with special attention given to resident undergraduates. For each category of students, a projection of full time enrollment as well as headcount (total enrollment) was made.

These strategy decisions were deemed important. The factors affecting individual institutions may cancel each other and not affect the state as a whole. For example, the relative attractiveness of an institution or competition between two institutions can affect the enrollment at both schools, but would have little impact on statewide enrollment. Making projections for each institution was supported by very pragmatic reasons also. Institutions operationalize the categorization of students slightly different. By making institutional projections, internal consistency becomes more important than cross-institutional consistency.

The basic data employed in the postsecondary projection model consist of high school graduates and the 1979 fall enrollment by class and/or category as recorded and tabulated by the Board of Higher Education.

Undergraduate class progression rates were constructed in the same manner as the grade progression rates for the elementary/secondary model. The progression rate is based on aggregate data in contrast to a retention rate which is based on individual data.

Undergraduate class progression rates were developed for the period since 1970. Changes in class progression rates were arrayed as averages of the last seven years, the last five years, the last three years, the last two years and the last year.

Class progression rates at individual institutions changed over the decade of the 1970s. However, these institutional changes have only a

minimal impact, less than two per cent, when applied to statewide enrollment projections. The impact of changing progression rates is much larger for some institutions. These changes suggest that either there are more one and two year programs, proportionately more students enrolled in such programs or that retention and/or transfer patterns have changed. What is important is that the impact of these changes has very little effect on statewide enrollment.

The individual institution and state class progression rates selected for these projections represent an average of the last two years. The high school to postsecondary progression rate was constructed by county by institution. The only data available are for 1979.

The steps in projecting postsecondary enrollment by institution and for the state were as follows:

1. project North Dakota resident freshmen;
2. project nonresident freshmen;
3. project resident and nonresident sophomores, juniors and seniors;
4. project special and unclassified students;
5. project graduate and professional students; and
6. project each of the above by full time and part time status (see Appendix E).

Key Assumptions

Several general premises guided thinking about the future of postsecondary enrollment in North Dakota. Not only will the population base for enrollment decrease, but many of the other factors which increased enrollment in the late 1960s and 1970s have little growth potential. The proportion of 18 year olds graduating from high school in North Dakota is near its maximum. This factor contributed to postsecondary enrollment growth in

the 1960s and 1970s. The growth in the female entrance rate had an appreciable effect on postsecondary enrollment increases. With male and female entrance rates near parity, this factor does not appear to have much growth potential either. In addition, the total postsecondary entrance rate is high. The possibility of the entrance rate decreasing is as likely as the possibility of it increasing. This assumption is based on projections of the labor force. Growth in the labor force will slow dramatically in the 1980s. Slower growth in the labor force could produce a demand for labor and increases in real wages. If this should occur, the opportunity costs of postsecondary schooling would increase. This condition could produce an environment different from that of the late 1960s and 1970s.

Undergraduates

The key assumptions for the statewide undergraduate enrollment projections can be summarized as follows:

- ...the projection of the North Dakota high school graduates is relatively accurate;
- ...the propensity of high school graduates to go on to a postsecondary school falls into the range bounded by the three alternative projections presented in this document;
- ...the class progression rates as observed in the late 1970s continue throughout the projection period; and
- ...North Dakota institutions remain attractive to nonresident students.

These projections assume that the pool of nonresident high school graduates will be declining at a rate similar to the decline in North Dakota high school graduates, but that North Dakota will remain attractive. All nonresident undergraduates were assumed to be full time with the exception of a small number of students at the University of North Dakota, where data did not support the full time assumption.

All key assumptions for the state apply to all institutions. However, an additional key assumption for each school is necessary. That assumption is that the relative attractiveness of each institution vis-a-vis each other institution in the states of North Dakota and Minnesota as observed in 1979 will continue throughout the projection period.

The situation this assumption describes may not last throughout the projection period. However, a change in the attractiveness of one North Dakota institution vis-a-vis another does not result in a change in statewide undergraduate resident enrollment. For this reason the state enrollment projection is likely to be more precise than the projections for any one institution.

What are some of the key factors that affect the undergraduate enrollment of an institution? The number of high school graduates in the institution's service area is very important. Knowing this, institutions will undoubtedly try to increase the size of their service area or to recruit a higher proportion of students from the areas they now dominate. If all institutions work equally hard at recruitment, their efforts may cancel each other out.

Other factors that affect the undergraduate enrollment at any institution are the type of programs it offers, the popularity of these programs, the reputation of its faculty, the reputation of its ability to place graduates and the general atmosphere of the campus.

While these projections were of necessity based on the assumption that the relative attractiveness of each institution would not change in the projection period, all of the above factors can change during the projection period. It seems natural that institutions will make changes in order to better serve the educational goals of the state and in the process try to make themselves more attractive.

Special and Unclassified Students

The special and unclassified category is a mixed bag in North Dakota. Some special and unclassified students have undergraduate degrees, others do not. At some schools, this classification represents nontraditional students; at other schools, part time traditional students are placed in this category. These varying definitions add to the difficulty in projecting this group of students.

The special and unclassified students (hereafter called specials) will be treated as a proxy for nontraditional students. This category of students has generated high hopes for increased enrollment, yet it is a category of students about which little is known. The factors affecting the number of special students have not been established, but characteristics of these students in the United States are emerging. Women make up a large component of this group. The age of these women (born before 1950) places them in a generation when fewer female high school graduates went on to postsecondary schools, when the age of marriage was lower and when women's job aspirations were more limited than today. The reasons for dropping out of school may also have changed. If these factors are important, it is not clear that the next generation (those born after 1950), whose life experiences are different, will constitute a pool of the same potential.

Part time and nontraditional students are found in much larger proportions at institutions located in large urban areas. This may reflect the greater concentration of persons with higher educational attainment in urban areas. More jobs requiring college degrees and more opportunities to combine work with part time enrollment also characterize urban areas. Opportunity costs could be more important for nontraditional students than for traditional students.

Special and unclassified students are concentrated at selected institutions in North Dakota. Special students comprise a large to moderately large proportion of all students at four institutions. At Bismarck Junior College, nearly a third (29 per cent) of the total headcount enrollment is composed of specials. Eighteen per cent of Valley City State College's headcount are special students, while NDSU-Bottineau Branch and Jamestown College have 17 and 15 per cent respectively.

The projection strategy for special students differs from that of resident and nonresident undergraduates. Specials were projected on a statewide basis and allocated to the institutions. This strategy was selected for the following reasons: 1) the most recent population projection for adults is for the state only, not by county; 2) some institutions offer classes at sites other than the main campus, making the geographic service area for specials less clearly defined; and 3) the effort to program for specials and the results achieved by some institutions suggest that these institutions may be nearing maximum market penetration. Only one institution--UND-Williston Center--has no special students today. No projected students were allocated to UND-Williston Center. This action in no way reflects an assumption about the potential for specials at UND-Williston Center, but rather, a decision not to assume a policy change at any institution.

The adult population 25 to 64 years of age constituted the pool for the projection of special students. The size of the pool reflects the most optimistic projection of North Dakota adults produced recently.[1] In 1979

---

[1] Series II C, U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 796, "Illustrative Projections of State Populations by Age, Race and Sex: 1975 to 2000," U.S. Government Printing Office, Washington, D.C., March, 1979.

special enrollment equaled six-tenths of a per cent (.006) of the North Dakota adult population 25 to 64 years of age. Basing special enrollment on the adult population results in two important variables--the size of the adult population and the per cent projected to be enrolled. Table 1 shows a projected increase of 65,500 persons 25 to 64 years of age between 1980 and 1990. The special student projection reflects this increase. In addition, the per cent of adults enrolled was increased to seven-tenths of a per cent (.007). For purposes of sensitivity analysis, the per cent enrolled was raised to one per cent (.01). The translation of special enrollment into full time equivalency does not justify elaborate assumptions on the per cent of adults enrolling.

Graduate and Professional Students

The factors affecting graduate and professional enrollment are somewhat different from those affecting other types of enrollment. The number of undergraduate degrees granted in a year forms one pool for graduate and professional enrollment. This pool is reflective of undergraduate enrollment which reflects high school graduates. Therefore, this pool indirectly reflects age or the size of a birth cohort or generation. The perceived demand for certain skills and the attractiveness of certain professions may also affect enrollment. For example, in the last two decades, when college and university enrollments were growing, the demand for college teachers stimulated graduate enrollments.

Opportunity costs are also present. The opportunity cost factor is further complicated by the availability of federally funded fellowships and external research dollars which yield assistantships. The relative dollar value of these forms of support may be important. The availability of subsidized student housing must also be considered.

Table 1

	North Dakota Adult Population			
	Census	Estimate	Projection	
	1970	1975	1980	1990
Population 25 to 64 Years of Age	252,100	270,000	292,300	357,800

Source: See footnote 1.

In the projection strategy, graduate and professional students were projected separately. Graduate students were projected at the state level and allocated to the University of North Dakota, North Dakota State University and Minot State College. All professional students were assigned to the University of North Dakota.

Since the majority of graduate students in North Dakota are master's degree candidates, a model was developed to reflect this fact. Students in the first year of graduate school in North Dakota equal 17 per cent of a three year average of bachelor degree recipients from North Dakota institutions. Seventeen per cent of each year's bachelor degrees became a proxy for entry into the graduate model. This proportion is a proxy because not all graduate students enrolled in North Dakota received undergraduate degrees from North Dakota schools. On the other hand, not all North Dakota bachelor degree graduates who enter graduate school do so in North Dakota.

The model was constructed to progress students for five years with a feed-back loop for master's degree graduates to enter a Ph.D. program. The results of this model show a smaller per cent decline in graduate enrollment than projections for other U.S. graduate institutions. This result seems justified by the disciplines in which graduate students are found in North Dakota.

Professional students were projected to remain constant throughout the 1980s. Only the University of North Dakota is affected by these projections. The number of seats in the two professional schools--Law and Medicine--reflects legislative decisions. While competition for seats may diminish somewhat, no seat would be expected to be empty. Only the legislature can determine if these seats justify their cost.

Full Time/Part Time Projections

Full time status is based on 12 credit hours or more for undergraduate and special students and 10 credit hours or more for graduate students. All categories of students were projected as having full time or part time status. However, different projection strategies were used for different student categories. Resident full time undergraduates were projected first. The full time projection was expanded to headcount by using a ratio of the average of the last two years. Nonresident undergraduates were projected as full time with the exception of a small number of students at the University of North Dakota.

Headcount for special and graduate students was projected first, with the full time projection as the second step. Full time students are rare among specials. The minimum credit hours (10) for full time graduate status is relatively high. Thus, it seemed meaningless to place considerable emphasis on the full time/part time status of graduate students. All professional students were assumed to be full time.

Findings

The projections described in this document result in the following key findings from 1979 to 1990:

- resident full time undergraduate enrollment decreases by 5,852, or 31 per cent;
- full time enrollment decreases by 7,330, or 28 per cent (see Figure 8);
- total headcount enrollment decreases by 7,381, or 24 per cent (see Figure 8);
- special and unclassified enrollment increases by 444, or 22 per cent;
- graduate enrollment decreases by 471, or 26 per cent;

> ...by 1990, part time students comprise nearly one-fifth of the total headcount, rising from 15 per cent to 19.5 per cent; and
>
> ...the magnitude and rate of change varies by institution, with decreases occurring later for the four-year institutions than for the two-year institutions.

A summary of the projections is shown in Table 2. The complete set of projections appears in Appendix D.

During the projection period, total enrollment falls from 30,939 in 1979 to 23,558 in 1990; however, total enrollment decreases only slightly through 1981. Decreases become sharper after 1983.

In these projections, special attention was given to full time undergraduates. This component of total enrollment is most reflective of changes in the size of birth cohorts or generations. Full time resident undergraduates decrease from 18,970 in 1979 to 13,118 in 1990. Annual declines are modest until 1983, when the annual change increases. Full time resident undergraduate enrollment fluctuates only slightly between 1987 and 1990.

For resident full time undergraduates, the sensitivity of several assumptions was tested. The proportion of high school graduates going on to postsecondary schools is an important variable. Three projections were made, one "best" assumption, two alternatives. One alternative ("A") assumed an increase of five per cent in the number of high school graduates going on to North Dakota postsecondary schools. The other alternative ("C") assumed a five per cent decrease in the number of high school graduates going on to North Dakota postsecondary institutions. The results of the three projections show a resident full time undergraduate enrollment ranging from 12,447 to 13,775 in 1990, based on different assumptions about the propensity of North Dakota high school graduates to attend a North Dakota postsecondary school (see Figure 9). The alternative projections are not used in any aggregations

Table 2

North Dakota Postsecondary Enrollment Comparison
1979--1990

Total Enrollment

	1979	1990	Change Number	Change Per Cent
Undergraduate	26,624	19,270	-7,354	-28
Resident	20,726	14,597	-6,129	-30
Nonresident	5,898	4,673	-1,225	-21
Special, Unclassified	2,060	2,504	444	22
Graduate	1,787	1,316	-471	-26
Professional	468	468	--	--
TOTAL	30,939	23,558	-7,381	-24

Full Time Enrollment

	1979	1990	Change Number	Change Per Cent
Undergraduate	24,606	17,527	-7,079	-29
Resident	18,970	13,118	-5,852	-31
Nonresident	5,636	4,411	-1,225	-22
Special, Unclassified	166	185	19	11
Graduate	1,062	790	-272	-26
Professional	468	468	--	--
TOTAL	26,302	18,972	-7,330	-28

Part Time Enrollment

	1979	1990	Change Number	Change Per Cent
Undergraduate	2,018	1,741	-277	-14
Resident	1,756	1,479	-277	-16
Nonresident	262	262	--	--
Special, Unclassified	1,894	2,319	425	22
Graduate	725	526	-199	-27
Professional	--	--	--	--
TOTAL	4,637	4,586	-51	-1

of enrollment for the state or any school. The results of assumptions "A" and "C" are found in Appendix C.

The composition of the student body will change during the 1980s. Undergraduates will comprise a smaller proportion of total enrollment. In 1979 undergraduates made up 86 per cent of the total headcount; in 1990 undergraduates account for 82 per cent of the total headcount.

Nonresidents continue to be an important component of full time undergraduate enrollment. Although nonresident full time undergraduates are projected to decrease, nonresident full time undergraduates increase as a proportion of the full time undergraduate enrollment. In 1979, nonresidents comprised 23 per cent of all full time undergraduates; by 1990 that proportion is projected to rise to 25 per cent. The projection assumes North Dakota will continue to get the same proportion of the Minnesota pool as it does today. Minnesota is the single largest source of nonresident undergraduates.

While the number of part time students is projected to remain about the same, the proportion of part time students to total headcount increases from 15 per cent to 19.5 per cent.

Part time undergraduate enrollment increases through 1982 and does not fall below the 1979 level until 1984. Declines are sharper between 1984 and 1986. After 1987, part time undergraduate enrollment is relatively stable. Part time enrollment accounts for 92 per cent of special enrollment in 1979 and 93 per cent in 1990.

Graduate and professional enrollments are projected to remain at their current proportions.

The projected increase in special and unclassified students raises the proportion of special students to headcount from seven per cent in 1979 to 11 per cent in 1990. Increasing special student enrollment can soften the

decrease in total headcount but its impact on full time equivalency (FTE) is not large. Because special students are part time, it takes three to five special students to equal one full time student. If each of the projected 2,319 part time special students in 1990 equals one-fourth of a full time student, the full time equivalency is 580 students. Even if special enrollment were to be one per cent of the adult population in 1990, or 3,578 students, the full time equivalency is only 895. These full time equivalencies compare to a decline of 7,354 full time undergraduates between 1979 and 1990. This fact is important for a realistic outlook on the future of enrollment.

Whatever the market potential for specials, the need for planning and adjustment to the decrease in full time undergraduates cannot be ignored. While special students can help maintain headcount, the decrease in full time enrollment and full time equivalency is not appreciably affected by an increase in special enrollment.

The Institutions

Changes in the number and characteristics of North Dakota postsecondary students does not tell the whole story. Changes at the school level vary from that of the state. This variation is natural. The composition of the student bodies vary. The role or mission of institutions vary. The programs vary. Hence, the changing population phenomenon affects institutions differently.

The changes institutions make in their own missions and strategies cannot be anticipated at this time. The institutional projections presented show enrollment at individual institutions presuming mission and behavior remain similar to that of the late 1970s. The testing of assumptions clearly demonstrates that changes which can affect individual institution enrollment only marginally

affect state enrollment. In other words, changes in missions, programs and recruitment policies affect the position of institutions vis-a-vis each other, not the entire state.

Changes in full time enrollment most closely reflect changes in the undergraduate population. Only three institutions currently have graduate students and only one has professional students. From 1979 to 1990, five of the thirteen institutions show a rate of decrease in full time enrollment less than the rate of decrease for the state. Bismarck Junior College and UND-Williston Center show the least decline in full time enrollment based on current rates. At UND-Williston Center, this is clearly a reflection of the smaller decline in the number of high school graduates in its service area. At Bismarck Junior College, the number of high school graduates and the large special student enrollment moderate the decrease.

Change in headcount varies by institution also. In general, those schools with large special enrollments today experience less decline over the projection period. While only five institutions had rates of decrease for full time students less than the state average, seven institutions had rates of decrease for headcount less than the state average.

Generally, the projections show student bodies composed of categories of students similar to today, with some modification. Resident undergraduate students decline as a proportion of total headcount. Nonresident students increase slightly as a per cent of total headcount. Special students also show an increase as a proportion of headcount. The largest proportional increases in specials occur at Valley City State College, Mary College, Jamestown College, Bismarck Junior College, Lake Region Junior College and NDSU-Bottineau Branch. To some extent, this reflects the larger special enrollment at these schools in 1979. By maintaining the current number of

specials or increasing it slightly, the special category becomes a larger proportion of these enrollments. At Minot State College and Dickinson State College, where special students are not a large number today, but are present, it was assumed that the special enrollment would increase simply on the basis of the population size of the service area and the perception that more special students could be attracted by these schools. We are not suggesting that these institutions change policies in an attempt to increase the number of specials, but that special enrollment appears more developed in the eastern part of the state and less developed in the west, with the exception of Bismarck Junior College and Mary College.

Graduate enrollments remain proportionately constant at the University of North Dakota, North Dakota State University and Minot State College. Professional students also remain constant.

Part time resident undergraduates increase their presence in the student body. This is true for virtually all the schools in which they are present today. Again, they were not projected where they do not exist today.

The assumptions made for nonresident enrollment for most schools seem most reasonable. However, the North Dakota State School of Science historical data seemed to provide an inadequate experience for future projection. Historically, nonresident students were not accepted at this institution until late summer. That policy is currently changing. What impact this change will have is unknown. Hence, the North Dakota State School of Science nonresident population increases proportionately but the projection at best is a crude estimate.

In carefully analyzing the various assumptions for institutional enrollment, the relative importance of certain assumptions becomes clear. The rate of decrease in the high school graduates in an institution's service area is

very important to an institution. Currently, only three institutions have statewide service areas. This raises the importance of the size of the service area and general recruitment efforts. However, it seems quite logical that if all institutions recruit with equal vigor, their efforts may cancel each other out. Some institutions have relatively larger regional service areas containing more counties and larger populations. The more moderate decline in high school graduates in certain parts of western North Dakota does indeed give institutions servicing those areas a more moderate enrollment decline.

Changes in institutional class progression rates, as mentioned earlier, only marginally impact the statewide enrollment. But data clearly show that several institutions experienced very marked changes in class progression rates between the early 70s and the late 70s. The reason for these changes is not clear. We can only speculate. The number of one and two year programs and the popularity of those programs may be a factor. Another reason may lie in recruiting policies. Recruiting students who have a low probability of completing produces dropouts later. Another reason may be changes in transferring patterns, i.e. the desire of a student to initially start his or her college career at a campus, usually a smaller campus or one closer to home, and then transfer to one of the larger campuses. Effects of the Vietnam conflict may be reflected in the early 1970s data. Varying the progression rates show that the ability to retain students has a noticeable impact on total institutional enrollment.

Those institutions with outreach programs or programs to attract special students generally experience more moderate declines. While we know very little about these students, the potential is not unlimited. It is clear that the number of special students enrolled, because of their part time status, do not significantly dampen the effect of the decline in full time

undergraduates. Special students are a source of maintaining or moderating decline in headcount; they are not as effective when viewed in terms of full time equivalency.

Finally, it is not the intent of this discussion to urge or give undue emphasis to total enrollment or maintaining a large enrollment as the best strategy for the 1980s. The ability of the institution to respond effectively to the society it serves through mission modifications, recruitment, retention and special services to people historically not served should all be analyzed as having both costs and benefits. There is no evidence that concentration on size of enrollment is the best educational or financial policy.

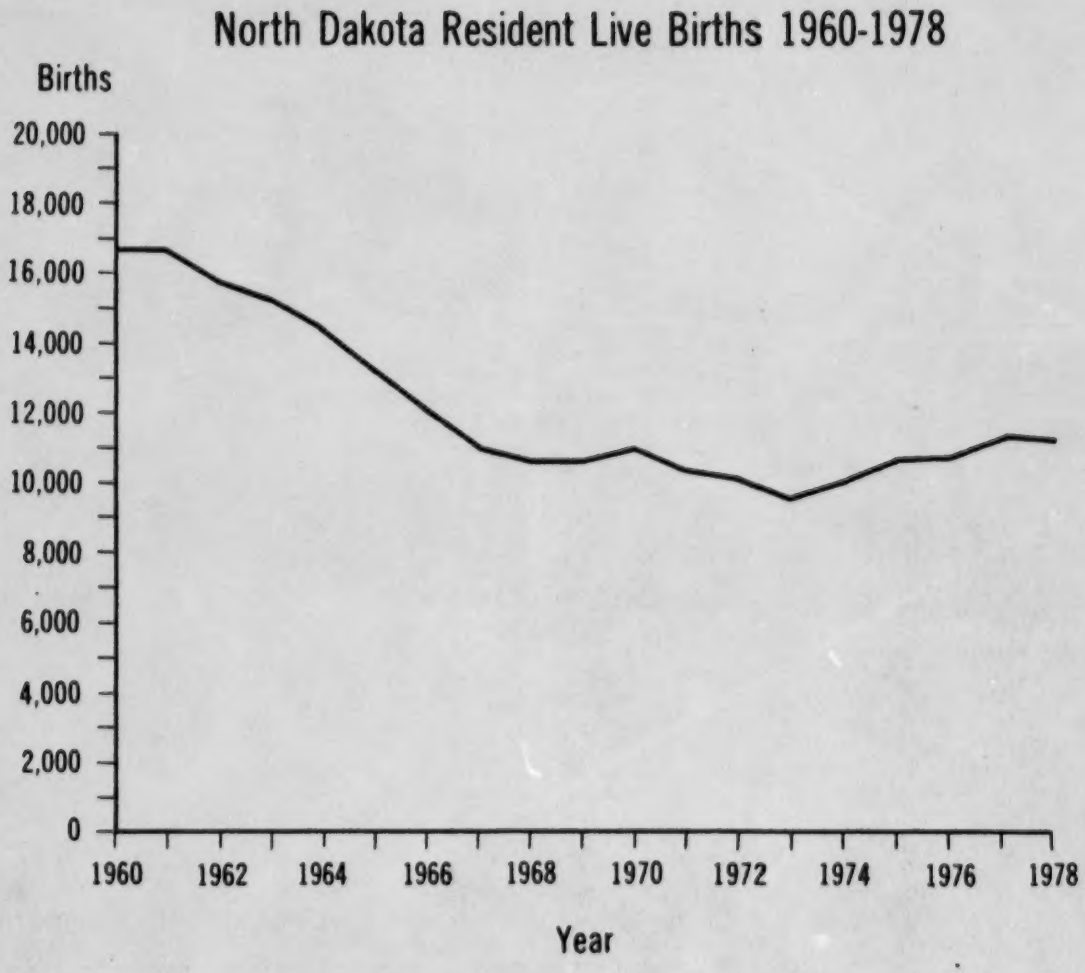

North Dakota Resident Live Births 1960-1978
Births
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
Year

Figure 1

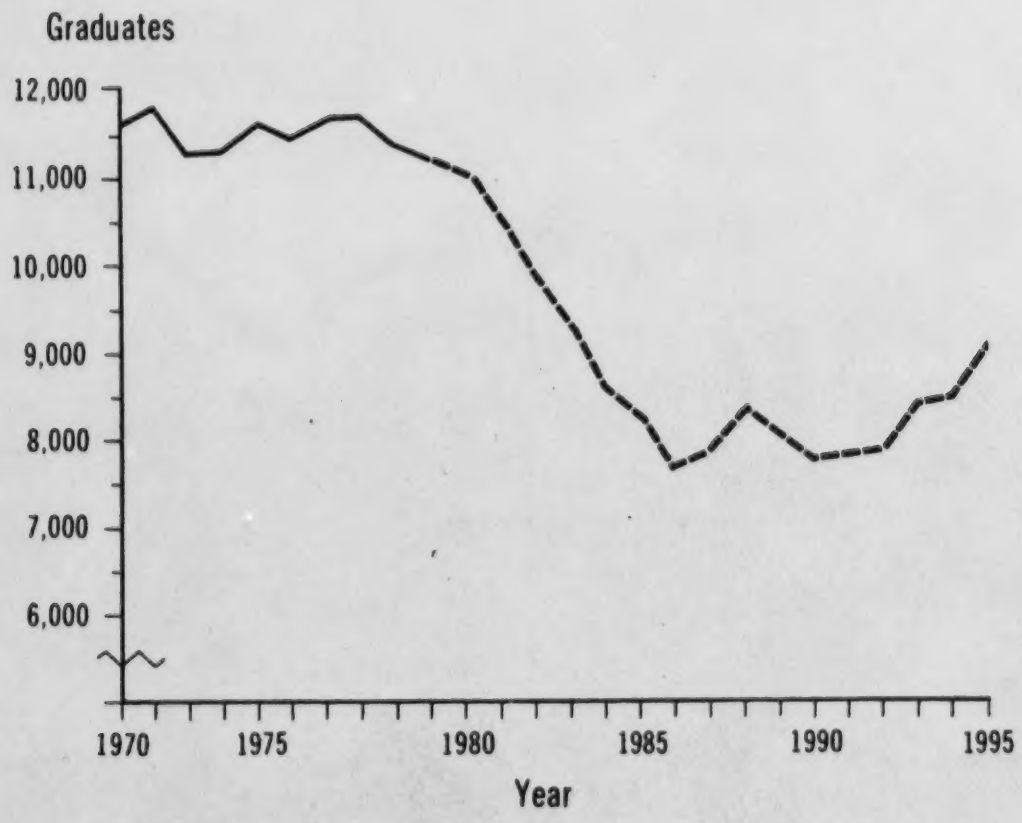
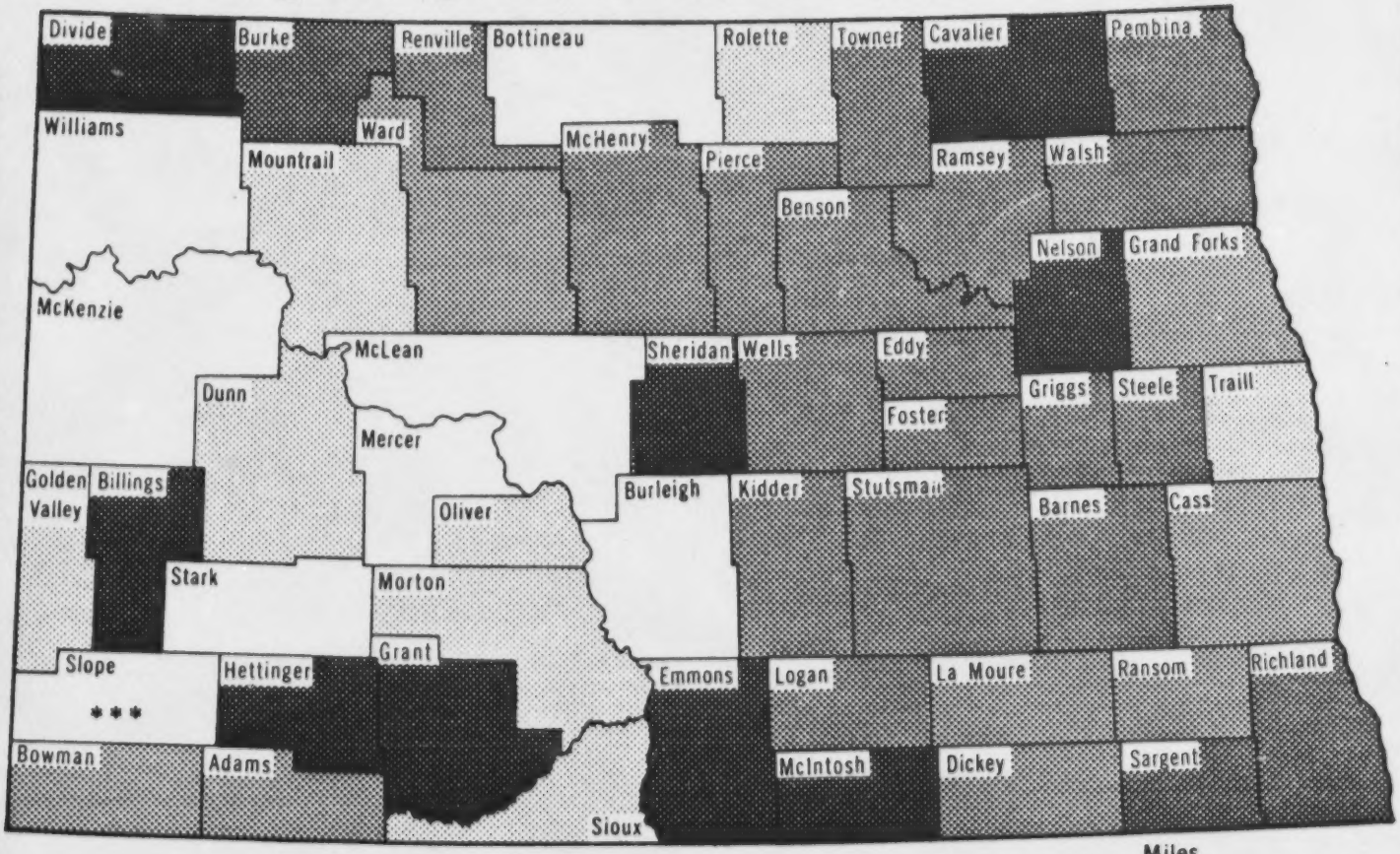

North Dakota High School Graduates 1970-1995
Graduates
12,000
11,000
10,000
9,000
8,000
7,000
6,000
1970
1975
1980
1985
1990
1995
Year

Figure 2

Change in High School Graduates, 1980-1990



CHANGE

- Increase to -14%
- -15% to -24%
- -25% to -34%
- -35% to -49%
- -50% or more

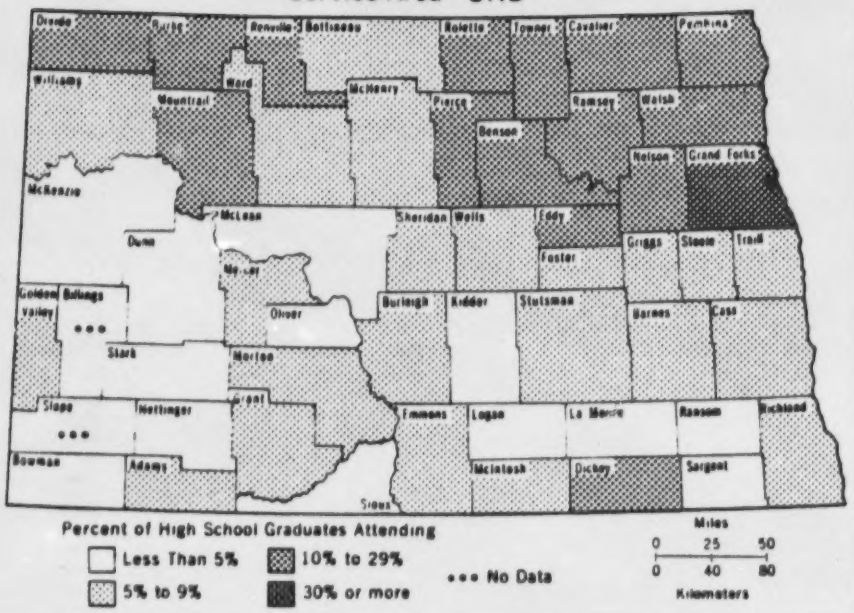
State= -30%

*** No Data

Miles
0 25 50
0 40 80
Kilometers

Figure 3

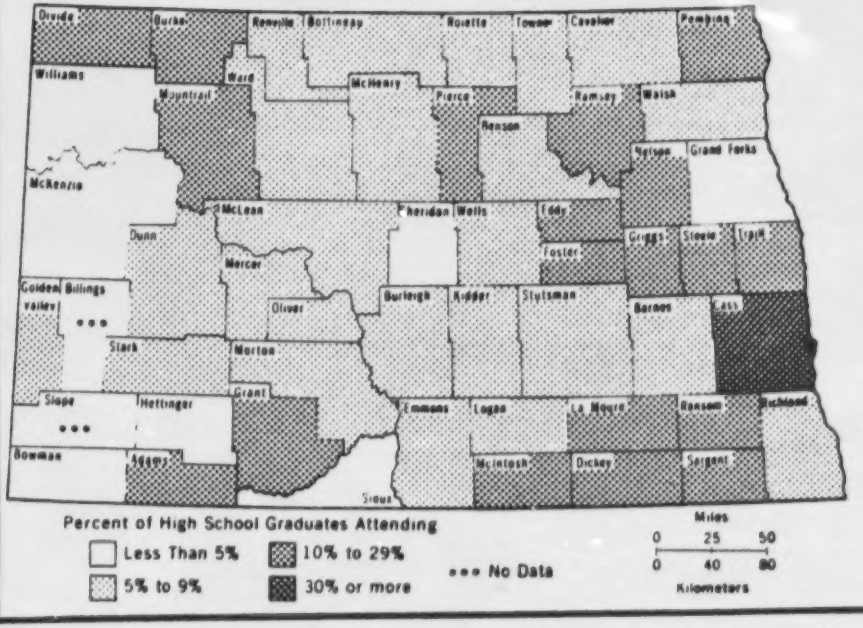
Service Area - UND



Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

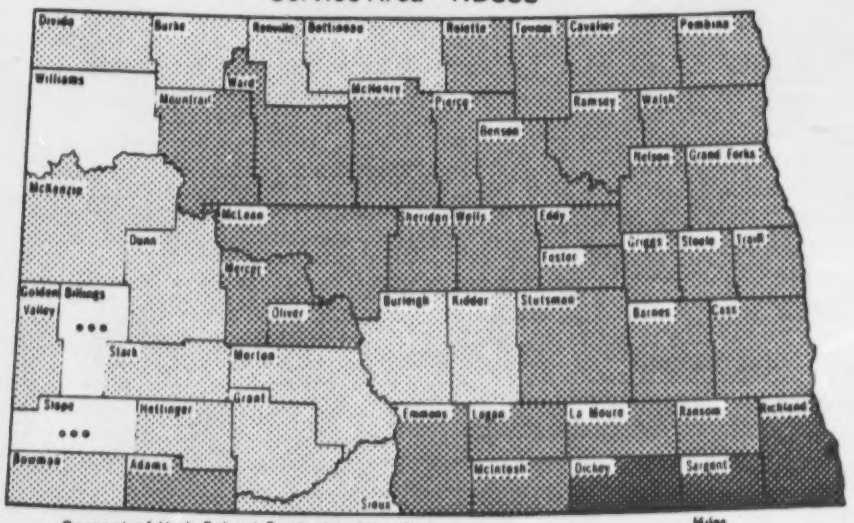
Service Area - NDSU



Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

Service Area - NDSSS

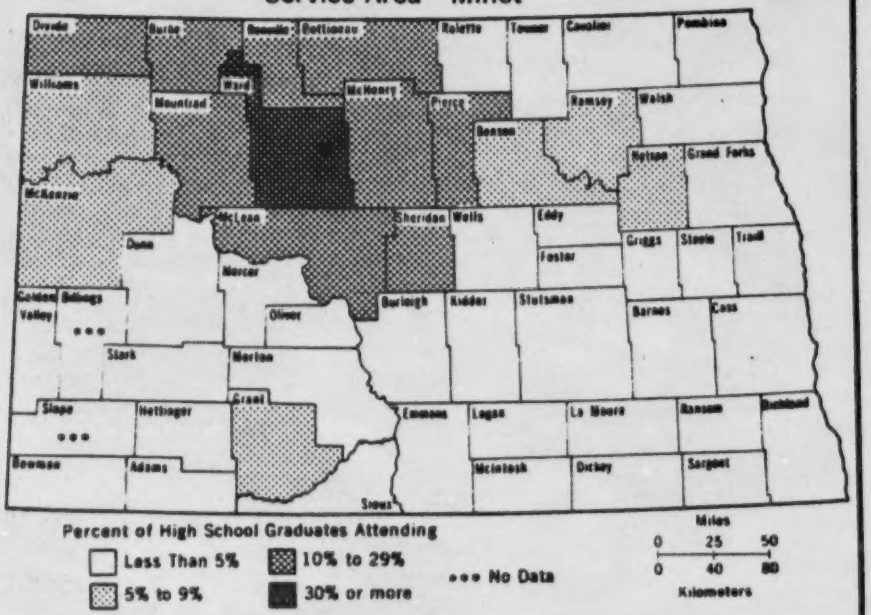


Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

Figure 4

Service Area - Minot

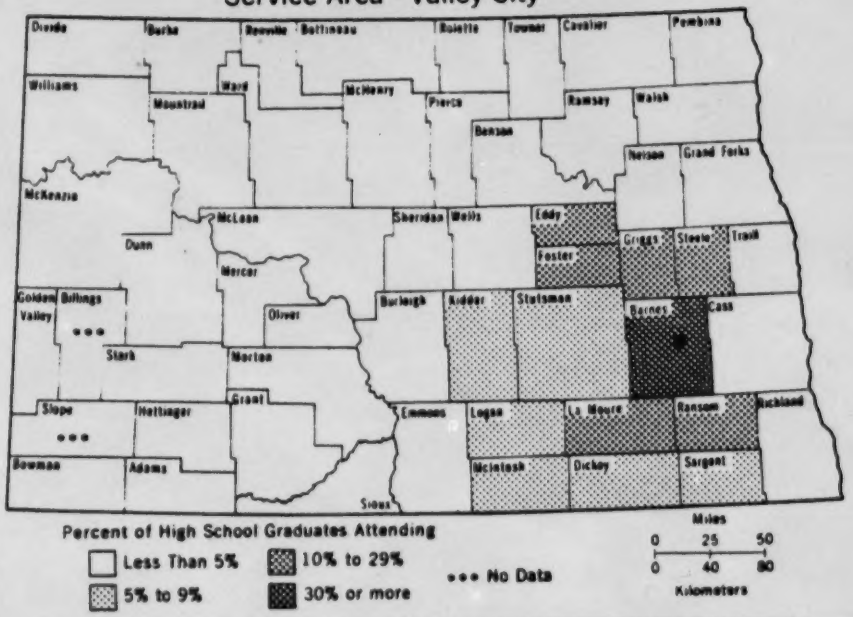


Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

Miles: 0 25 50
Kilometers: 0 40 80

Service Area - Valley City

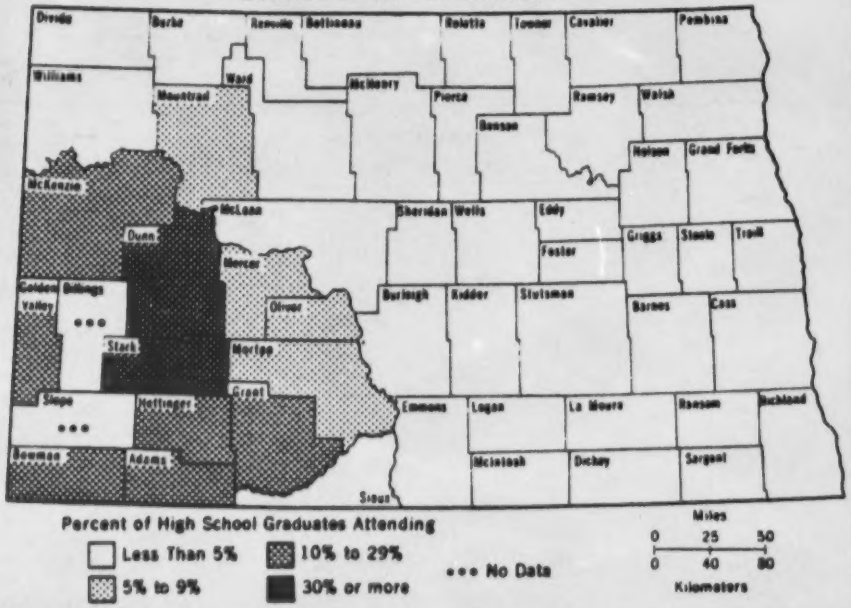


Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

Miles: 0 25 50
Kilometers: 0 40 80

Service Area - Dickinson

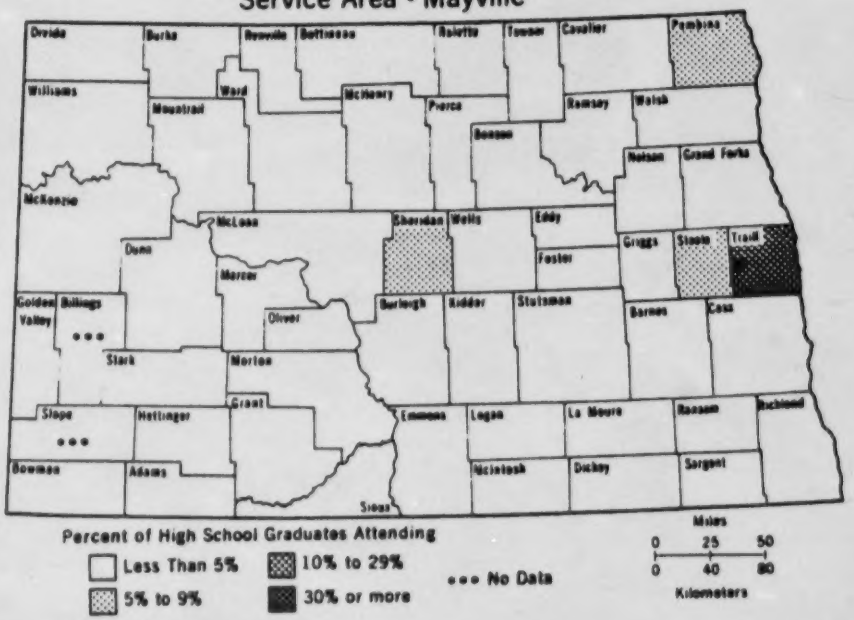


Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

Miles: 0 25 50
Kilometers: 0 40 80

Service Area - Mayville



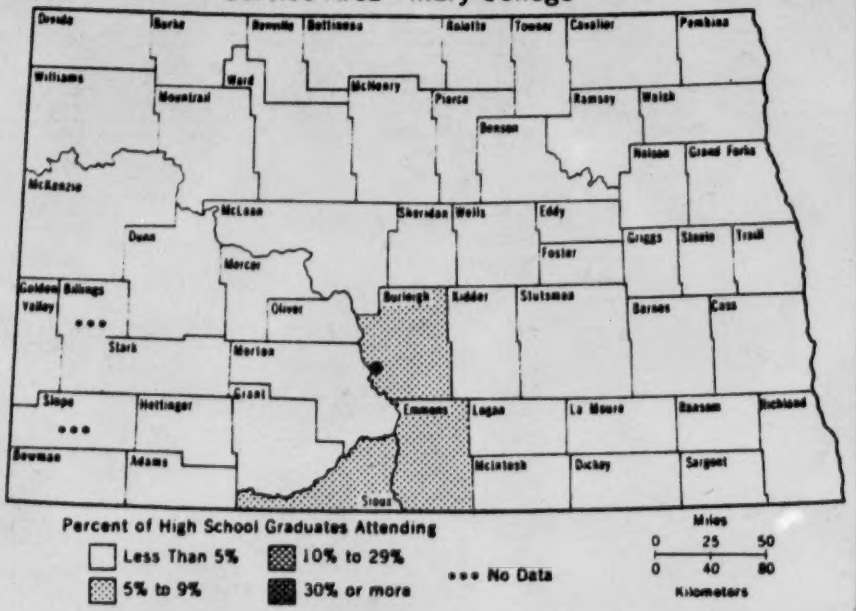
Percent of High School Graduates Attending

- Less Than 5%
- 5% to 9%
- 10% to 29%
- 30% or more
- ••• No Data

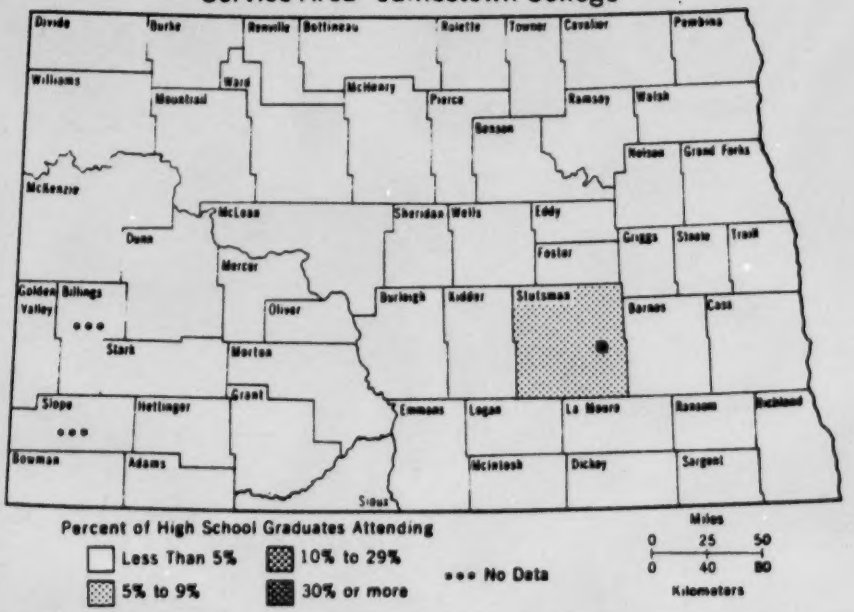
Miles: 0 25 50
Kilometers: 0 40 80

Figure 5

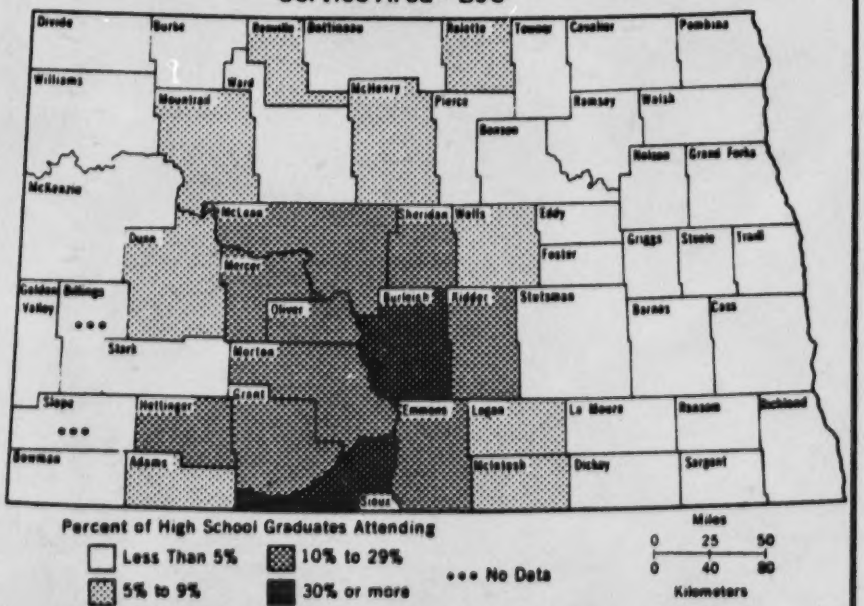
Service Area - Mary College



Service Area - Jamestown College



Service Area - BJC



Service Area - Lake Region

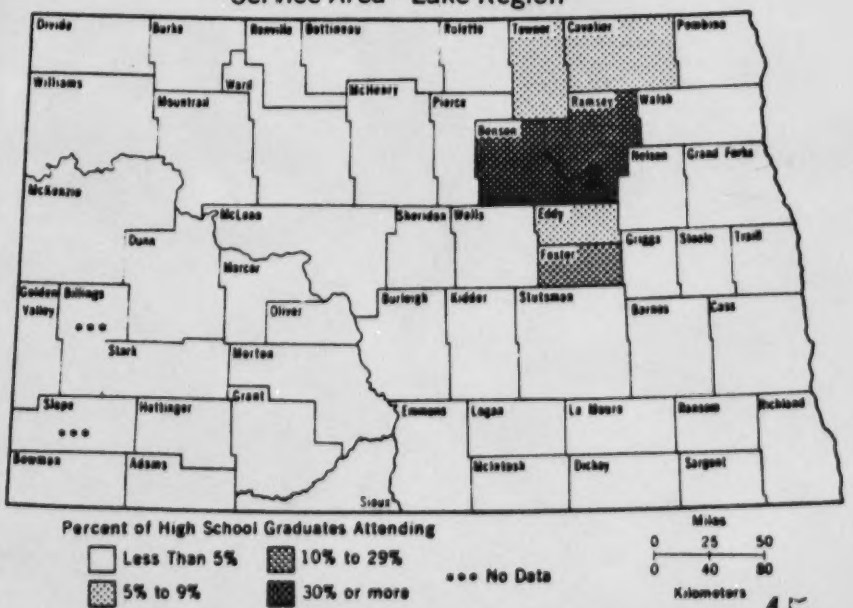
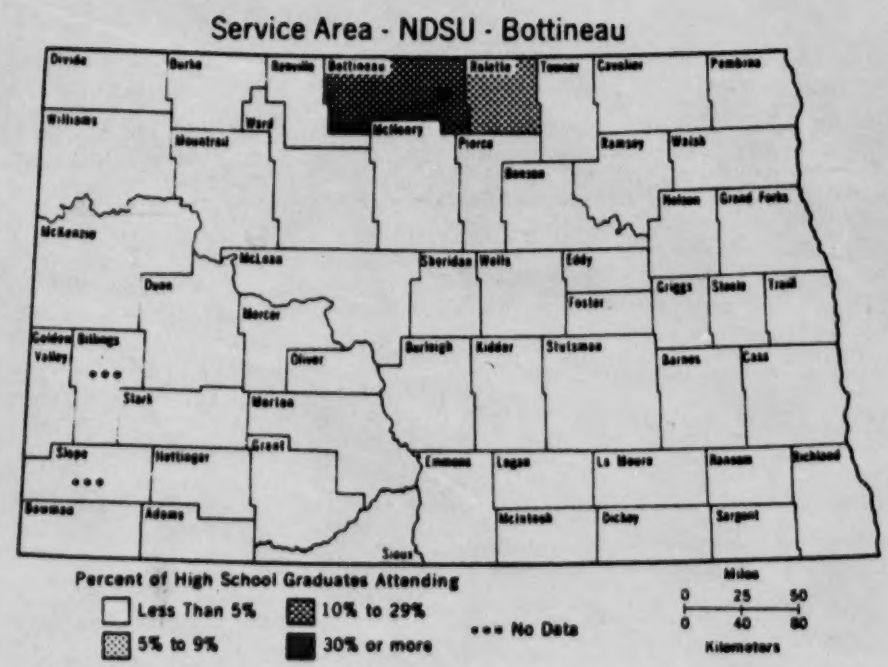


Figure 6


Service Area - NDSU - Bottineau
Percent of High School Graduates Attending
Less Than 5%
10% to 29%
5% to 9%
30% or more
••• No Data
Miles
0 25 50
0 40 80
Kilometers

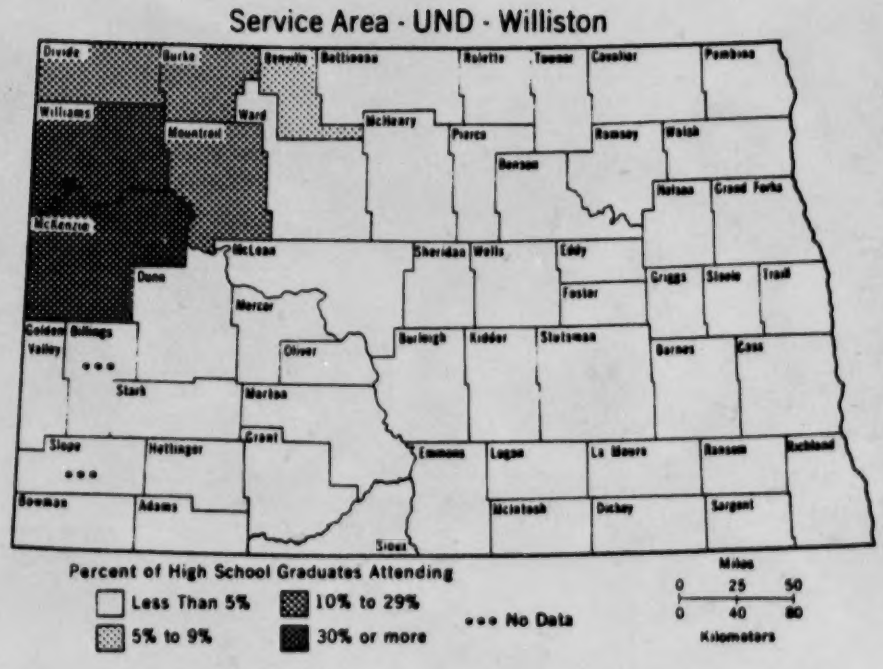

Service Area - UND - Williston
Percent of High School Graduates Attending
Less Than 5%
10% to 29%
5% to 9%
30% or more
••• No Data
Miles
0 25 50
0 40 80
Kilometers

Figure 7

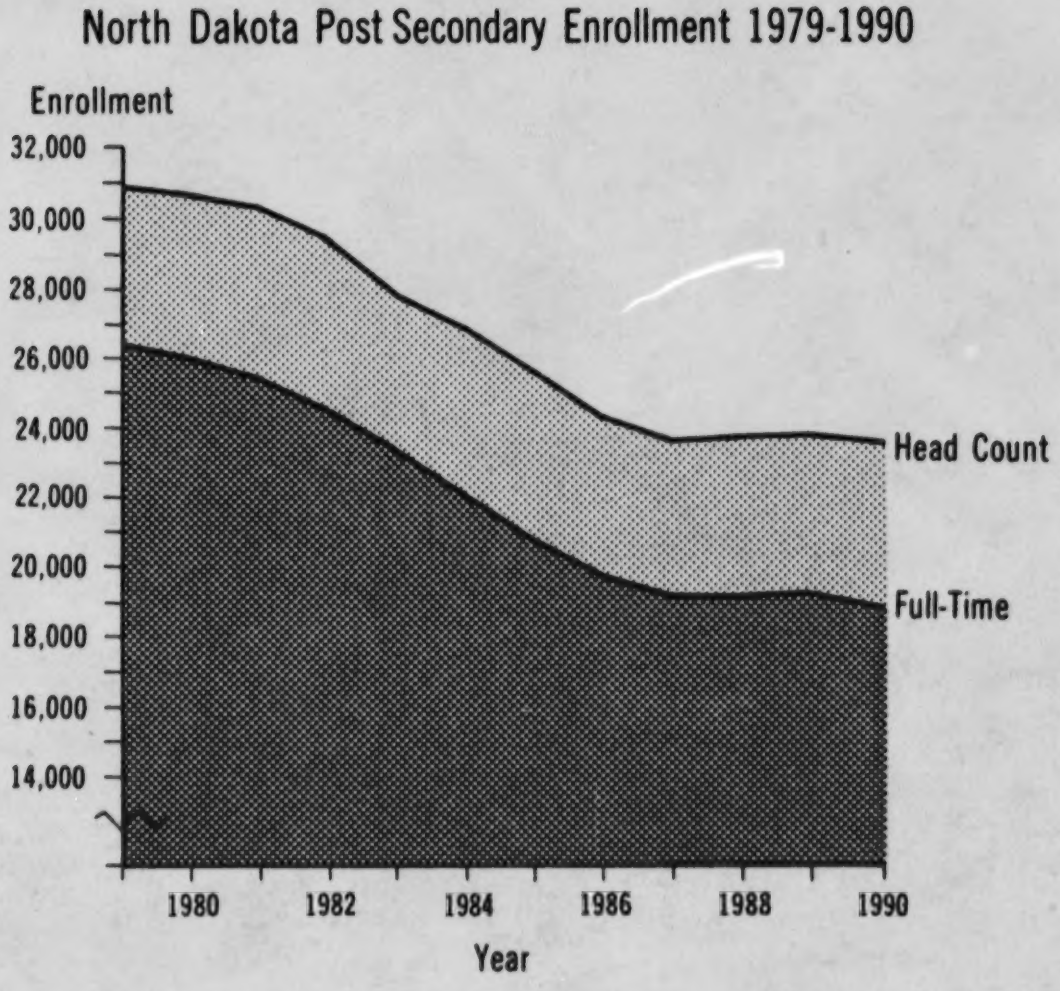
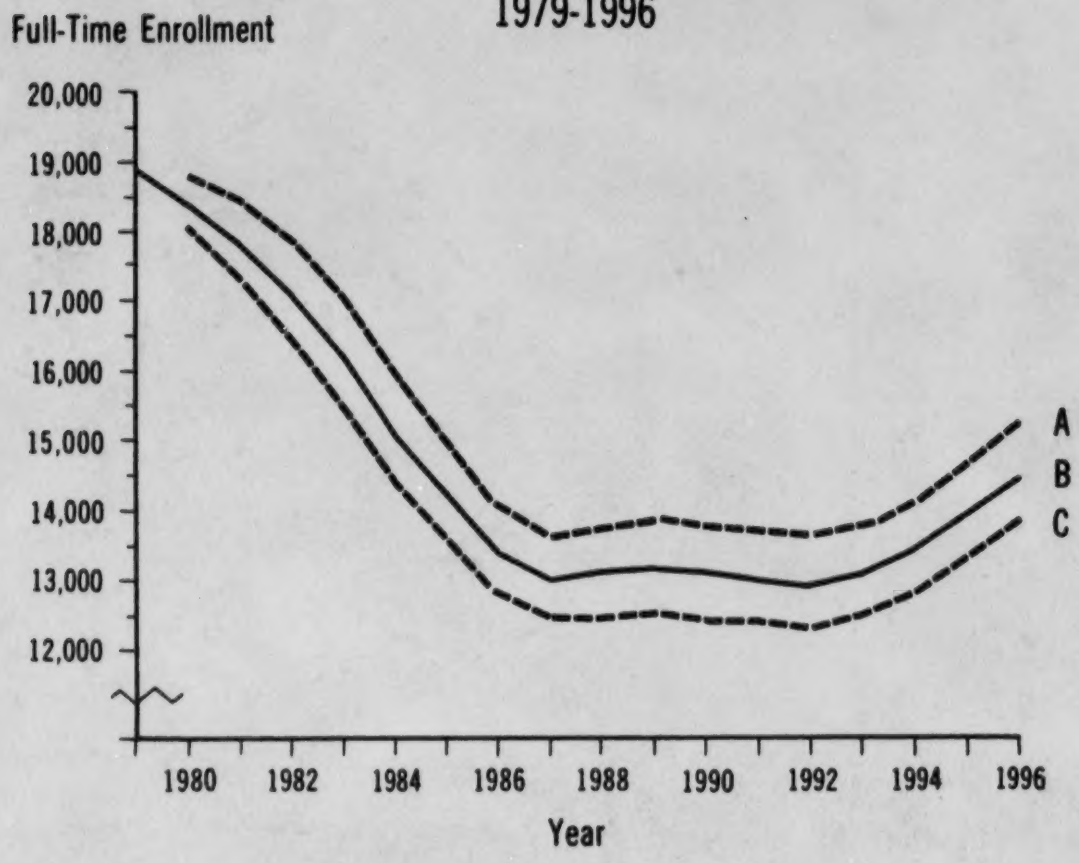

North Dakota Post Secondary Enrollment 1979-1990
Enrollment
32,000
30,000
28,000
26,000
24,000
22,000
20,000
18,000
16,000
14,000
1980
1982
1984
1986
1988
1990
Year
Head Count
Full-Time

Figure 8

Full Time North Dakota Resident Undergraduate Enrollment 1979-1996



Progression Rate From High School Graduate to North Dakota Post Secondary Status

A=5% increase in rate

B=1979 rate

C=5% decrease in rate

Figure 9

A Comparison of North Dakota Historical Head Count Enrollments and Projected Enrollments.

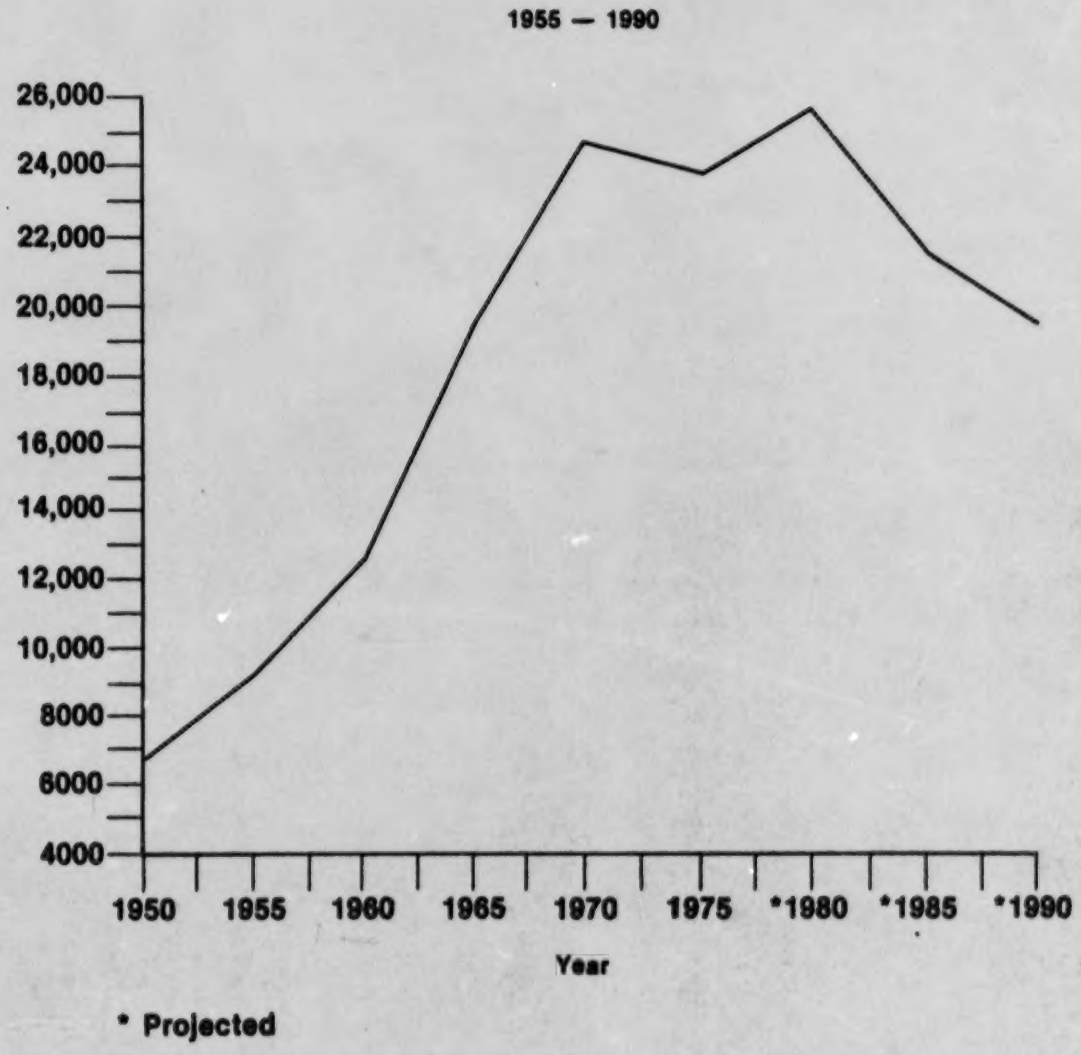


Figure 10

APPENDIX A

North Dakota Resident Live Births By County
1960--1969

COUNTY	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Adams	107	98	99	103	91	78	81	54	60	60
Barnes	437	391	367	311	285	267	244	218	222	223
Benson	222	235	228	221	198	206	154	173	163	131
Billings	42	37	33	36	38	21	22	24	11	13
Bottineau	244	238	204	192	177	169	150	151	153	133
Bowman	108	89	86	87	106	82	80	51	71	62
Burke	122	132	125	107	124	93	100	63	85	81
Burleigh	984	1,006	937	925	933	842	803	719	728	757
Cass	1,853	1,789	1,658	1,501	1,452	1,265	1,245	1,173	1,277	1,277
Cavalier	227	242	226	205	199	207	156	136	137	100
Dickey	204	175	172	144	157	122	119	91	102	119
Divide	136	112	100	107	92	83	76	61	53	72
Dunn	158	167	131	132	124	104	107	95	94	65
Eddy	103	130	98	85	76	79	86	71	61	64
Emmons	244	242	197	214	184	181	134	139	129	120
Foster	157	139	137	139	121	124	104	90	86	72
Golden Valley	62	67	53	63	48	45	37	44	38	39
Grand Forks	1,586	1,583	1,619	1,674	1,585	1,578	1,457	1,360	1,310	1,354
Grant	138	142	143	105	125	97	82	82	76	74
Griggs	85	86	95	70	87	79	61	55	59	62
Hettinger	176	178	152	119	124	122	106	110	86	88
Kidder	121	124	107	111	101	65	93	59	69	59
LaMoure	187	197	156	154	133	131	124	110	83	100
Logan	126	130	123	93	115	88	66	70	71	64

APPENDIX A (cont.)
North Dakota Resident Live Births By County
1960--1969

COUNTY	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
McHenry	255	265	221	249	200	179	165	158	136	138
McIntosh	172	150	139	141	113	107	79	95	66	78
McKenzie	179	166	152	129	129	114	102	87	80	98
McLean	298	298	261	299	246	219	206	179	151	167
Mercer	168	130	130	130	135	140	102	99	100	85
Morton	597	618	576	522	499	454	469	399	343	367
Mountrail	250	233	220	237	191	153	148	131	129	128
Nelson	130	140	130	140	140	124	99	76	74	60
Oliver	64	52	50	63	48	47	39	30	33	23
Pembina	285	275	281	249	234	219	188	161	175	157
Pierce	190	179	167	166	159	152	143	116	102	106
Ramsey	346	351	299	308	306	283	263	211	204	194
Ransom	150	173	162	120	122	97	97	81	85	96
Renville	118	109	103	115	100	89	68	69	60	51
Richland	456	457	388	343	283	293	262	243	237	265
Rolette	394	389	426	403	411	363	330	300	296	300
Sargent	147	156	146	127	123	108	111	93	100	80
Sheridan	87	82	78	76	64	54	50	49	40	45
Sioux	131	135	122	137	131	130	130	118	88	87
Slope	58	52	58	47	39	33	31	21	30	22
Stark	575	548	548	525	539	508	450	415	384	386
Steele	129	87	110	94	82	80	58	66	37	63
Stutsman	609	606	536	495	456	454	404	365	322	382
Towner	116	122	118	122	92	82	74	84	64	70
Traill	193	214	210	213	159	173	135	120	134	124

APPENDIX A (cont.)
North Dakota Resident Live Births By County
1960--1969

COUNTY	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Walsh	396	427	399	374	340	321	311	253	227	236
Ward	1,520	1,696	1,831	1,833	1,789	1,510	1,465	1,288	1,263	1,352
Wells	218	194	184	199	169	188	145	124	109	110
Williams	630	582	551	503	431	396	348	332	338	339
TOTAL	16,690	16,615	15,842	15,257	14,405	13,198	12,159	10,962	10,631	10,798

APPENDIX A

North Dakota Resident Live Births By County
1970--1978

COUNTY	1970	1971	1972	1973	1974	1975	1976	1977	1978
Adams	48	63	44	53	59	47	56	47	56
Barnes	246	188	200	192	180	156	196	220	221
Benson	148	144	159	141	141	165	185	163	180
Billings	19	17	19	18	19	15	21	9	17
Bottineau	148	131	117	135	136	128	130	146	137
Bowman	66	56	74	62	68	79	70	85	76
Burke	62	65	66	41	59	50	63	56	65
Burleigh	791	728	734	770	767	846	766	888	952
Cass	1,333	1,242	1,215	1,080	1,153	1,268	1,243	1,455	1,373
Cavalier	124	153	152	155	171	191	181	129	113
Dickey	96	97	92	88	101	120	112	115	125
Divide	65	59	58	45	52	52	65	50	60
Dunn	72	73	46	65	66	64	71	82	59
Eddy	54	58	42	54	52	65	69	53	56
Emmons	116	109	86	94	79	86	76	94	79
Foster	73	82	65	85	73	78	80	78	72
Golden Valley	40	46	36	38	38	37	43	37	43
Grand Forks	1,430	1,406	1,261	1,262	1,245	1,356	1,285	1,340	1,316
Grant	71	74	67	73	72	59	67	54	66
Griggs	46	46	66	47	54	52	62	64	52
Hettinger	78	64	60	70	53	69	59	68	56
Kidder	85	61	72	67	57	58	67	67	61
LaMoure	86	93	87	81	82	105	90	101	87
Logan	50	57	49	52	51	59	45	46	40

APPENDIX A (cont.)
North Dakota Resident Live Births By County
1970--1978

COUNTY	1970	1971	1972	1973	1974	1975	1976	1977	1978
McHenry	135	112	110	131	112	119	126	117	124
McIntosh	74	51	61	48	49	39	38	58	49
McKenzie	83	87	101	113	103	104	104	102	99
McLean	167	156	160	153	172	188	173	225	204
Mercer	84	93	81	78	86	88	114	120	142
Morton	369	341	337	312	360	390	415	493	461
Mountrail	135	148	133	124	129	129	134	134	153
Nelson	61	68	56	62	60	76	66	63	73
Oliver	29	23	33	32	42	29	32	49	42
Pembina	164	176	162	193	173	172	159	192	198
Pierce	115	87	81	91	99	86	106	106	92
Ramsey	197	201	212	170	197	177	195	211	233
Ransom	97	92	83	82	113	111	100	111	99
Renville	65	56	51	57	63	52	54	44	54
Richland	237	222	230	209	239	249	279	304	309
Rolette	303	281	334	260	298	341	359	354	323
Sargent	91	86	84	91	104	109	95	101	92
Sheridan	46	38	43	36	45	27	51	46	47
Sioux	96	80	102	94	106	101	102	97	114
Slope	28	23	16	17	21	23	19	26	19
Stark	372	327	351	318	300	304	327	331	393
Steele	47	33	47	34	38	49	57	42	47
Stutsman	347	343	319	316	303	345	334	397	414
Towner	70	67	58	58	32	62	54	57	67
Traill	125	105	116	87	124	126	137	145	155

APPENDIX A (cont.)
North Dakota Resident Live Births By County
1970--1978

COUNTY	1970	1971	1972	1973	1974	1975	1976	1977	1978
Walsh	240	226	250	210	219	245	247	264	262
Ward	1,419	1,322	1,242	1,225	1,183	1,271	1,321	1,372	1,256
Wells	124	95	91	96	93	75	104	106	100
Williams	337	310	304	273	319	332	320	336	364
TOTAL	11,004	10,361	10,115	9,738	10,010	10,624	10,724	11,450	11,347

APPENDIX B

Projected North Dakota High School Graduates By County
1980--1986

COUNTY	1979	1980	1981	1982	1983	1984	1985	1986
Adams	77	62	75	65	63	63	49	43
Barnes	287	239	228	211	184	161	144	162
Benson	141	134	122	130	122	112	101	88
Billings[1]	--	--	--	--	--	15	22	9
Bottineau	181	161	157	141	153	141	123	145
Bowman	100	101	115	101	117	85	83	92
Burke	82	76	73	75	61	65	46	43
Burleigh	940	847	817	778	733	696	735	640
Cass	1,431	1,376	1,315	1,237	1,218	1,140	1,098	1,038
Cavalier	170	183	157	138	126	99	93	81
Dickey	125	140	114	124	91	86	98	85
Divide	55	59	46	48	41	39	34	28
Dunn	75	65	64	71	57	55	55	55
Eddy	77	64	68	61	55	37	46	48
Emmons	148	156	148	148	123	102	107	85
Foster	106	107	93	80	101	82	65	76
Golden Valley[1]	54	53	50	59	56	43	36	33
Grand Forks	810	767	711	692	629	589	550	536
Grant	73	93	77	68	66	70	64	52
Griggs	54	54	48	51	46	34	38	36
Hettinger	135	141	129	124	111	129	115	85
Kidder	72	71	65	62	49	54	47	39
LaMoure	166	139	129	104	118	101	96	77
Logan	74	72	77	81	61	54	46	48

APPENDIX B (cont.)
Projected North Dakota High School Graduates By County
1980--1986

COUNTY	1979	1980	1981	1982	1983	1984	1985	1986
McHenry	193	198	169	156	140	121	130	111
McIntosh	120	105	133	102	93	77	88	68
McKenzie	99	80	94	100	77	80	91	85
McLean	230	221	235	229	219	203	193	179
Mercer	142	146	147	171	146	160	158	174
Morton	448	456	459	425	402	414	402	377
Mountrail	166	139	152	140	114	94	105	91
Nelson	140	128	116	115	88	103	65	66
Oliver	37	37	41	36	41	36	24	34
Pembina	205	198	181	150	173	139	131	139
Pierce	107	117	118	116	102	90	91	80
Ramsey	273	257	273	269	209	213	173	172
Ransom	137	126	144	109	102	112	92	108
Renville	94	82	73	61	74	64	57	56
Richland	345	339	259	271	236	206	221	188
Rolette	198	181	150	168	231	162	148	146
Sargent	95	103	101	85	73	78	62	67
Sheridan	48	38	31	28	32	27	24	17
Sioux	69	58	69	67	68	63	52	50
Slope[2]	--	--	--	--	--	--	--	--
Stark	429	462	448	453	415	388	358	343
Steele	65	61	52	46	36	25	27	25
Stutsman	391	398	365	339	310	309	296	244
Towner	83	80	84	54	62	56	55	55
Traill	179	200	213	166	165	110	132	143

APPENDIX B (cont.)
Projected North Dakota High School Graduates By County
1980--1986

COUNTY	1979	1980	1981	1982	1983	1984	1985	1986
Walsh[3]	257	330	268	228	230	189	172	158
Ward	899	836	816	770	707	705	622	539
Wells	164	131	149	117	99	100	88	80
Williams	363	360	330	296	294	262	289	297
TOTAL	11,278	11,027	10,548	9,916	9,319	8,638	8,237	7,716

APPENDIX B

Projected North Dakota High School Graduates By County
1987--1995

COUNTY	1987	1988	1989	1990	1991	1992	1993	1994	1995
Adams	58	56	54	45	52	59	50	56	49
Barnes	140	133	138	125	132	118	103	130	142
Benson	92	87	75	82	63	76	91	101	87
Billings[1]	11	19	7	10	12	14	11	16	7
Bottineau	122	139	128	138	132	133	125	127	141
Bowman	81	87	110	68	95	87	102	89	108
Burke	61	51	48	48	44	49	43	52	46
Burleigh	703	766	778	733	755	772	854	770	881
Cass	1,066	1,135	1,128	1,036	980	1,021	1,125	1,100	1,267
Cavalier	57	73	66	59	55	68	77	73	51
Dickey	76	87	87	94	87	84	99	92	96
Divide	24	36	28	25	24	26	27	34	25
Dunn	51	56	47	52	51	55	54	58	67
Eddy	45	41	33	38	37	39	48	50	39
Emmons	90	95	85	75	66	64	70	62	75
Foster	70	75	82	70	76	70	73	75	72
Golden Valley[1]	35	34	38	41	30	35	36	41	35
Grand Forks	551	590	573	565	518	534	583	550	566
Grant	59	51	56	45	46	50	40	46	36
Griggs	41	43	40	34	37	41	40	45	46
Hettinger	87	84	79	67	73	60	74	67	72
Kidder	41	52	32	42	41	32	33	39	38
LaMoure	70	108	86	94	84	80	101	86	98
Logan	38	39	46	41	46	39	44	35	35

APPENDIX B (cont.)
Projected North Dakota High School Graduates By County
1987--1995

COUNTY	1987	1988	1989	1990	1991	1992	1993	1994	1995
McHenry	109	102	100	107	106	95	102	108	99
McIntosh	49	75	55	42	55	45	38	37	52
McKenzie	91	98	92	108	117	109	110	110	108
McLean	197	213	214	204	230	200	219	200	259
Mercer	180	198	224	255	215	215	219	284	295
Morton	393	400	393	366	425	437	474	502	587
Mountrail	94	100	104	108	107	104	105	109	108
Nelson	70	71	54	46	51	50	63	54	51
Oliver	30	26	25	29	32	37	26	29	44
Pembina	116	128	122	119	114	115	116	106	124
Pierce	69	85	80	60	66	76	66	84	83
Ramsey	168	181	198	167	185	181	163	182	190
Ransom	69	118	92	95	102	127	126	114	123
Renville	57	63	68	52	49	64	53	54	44
Richland	215	192	189	197	195	211	219	246	264
Rolette	139	149	138	146	142	151	175	184	177
Sargent	54	70	66	56	55	71	72	64	68
Sheridan	20	28	13	17	19	22	14	27	22
Sioux	41	39	37	47	37	45	42	42	39
Slope[2]	--	--	--	--	--	--	--	--	--
Stark	389	375	367	399	442	365	371	397	397
Steele	30	28	22	31	19	22	31	34	24
Stutsman	314	287	279	273	293	268	307	295	347
Towner	45	56	46	46	35	25	49	42	44
Traill	145	145	146	158	139	161	164	180	187

APPENDIX B (cont.)
Projected North Dakota High School Graduates By County
1987--1995

COUNTY	1987	1988	1989	1990	1991	1992	1993	1994	1995
Walsh[3]	147	155	161	147	127	139	156	156	166
Ward	597	595	595	570	539	542	584	605	618
Wells	80	89	83	71	75	73	59	83	84
Williams	306	336	341	339	331	378	394	379	392
TOTAL	7,883	8,339	8,148	7,882	7,838	7,934	8,420	8,501	9,075

APPENDIX B

Footnotes

1. There are no high schools in Billings County. This projection of high school graduates in Billings County from 1984--1995 results from the presence of elementary enrollment and insufficient data to determine the county of high school attendance. The data suggest most of the Billings County high school students attend a high school in Golden Valley County.

2. There are no elementary or secondary schools in Slope County.

3. The projection of high school graduates for Walsh County is distorted by the presence of an institutionalized population at the Grafton State School. This population originates in counties other than Walsh. From 1984 to 1995 the projection reflects noninstitutionalized Walsh County residents only.

APPENDIX C

Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

Progression Rate from High School Graduate to North Dakota Postsecondary Status:

A = 5% increase from 1979 rate (by county)

B = 1979 rate

C = 5% decrease from 1979 rate (by county)

NORTH DAKOTA

YEAR	A	B	C
1979-80	18,970	18,970	18,970
1980-81	18,790	18,413	18,045
1981-82	18,483	17,878	17,283
1982-83	17,843	17,121	16,436
1983-84	17,019	16,210	15,429
1984-85	15,931	15,194	14,441
1985-86	14,980	14,268	13,553
1986-87	14,065	13,412	12,753
1987-88	13,679	13,039	12,412
1988-89	13,853	13,196	12,554
1989-90	13,890	13,223	12,567
1990-91	13,775	13,118	12,447

UNIVERSITY OF NORTH DAKOTA

YEAR	A	B	C
1979-80	4,801	4,801	4,801
1980-81	4,863	4,799	4,741
1981-82	4,915	4,790	4,667
1982-83	4,838	4,671	4,502
1983-84	4,644	4,428	4,207
1984-85	4,338	4,133	3,932
1985-86	4,055	3,869	3,673
1986-87	3,797	3,629	3,455
1987-88	3,634	3,476	3,304
1988-89	3,625	3,462	3,288
1989-90	3,637	3,472	3,303
1990-91	3,647	3,482	3,305

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

NORTH DAKOTA STATE UNIVERSITY

YEAR	A	B	C
1979-80	4,288	4,288	4,288
1980-81	4,243	4,181	4,120
1981-82	4,187	4,072	3,961
1982-83	4,068	3,920	3,775
1983-84	3,945	3,754	3,565
1984-85	3,710	3,536	3,347
1985-86	3,486	3,320	3,143
1986-87	3,286	3,120	2,960
1987-88	3,151	2,990	2,847
1988-89	3,149	2,999	2,852
1989-90	3,156	3,000	2,844
1990-91	3,146	2,987	2,828

MINOT STATE COLLEGE

YEAR	A	B	C
1979-80	1,723	1,723	1,723
1980-81	1,606	1,571	1,536
1981-82	1,523	1,478	1,426
1982-83	1,454	1,392	1,333
1983-84	1,373	1,303	1,239
1984-85	1,317	1,249	1,187
1985-86	1,216	1,150	1,093
1986-87	1,105	1,053	1,001
1987-88	1,094	1,041	991
1988-89	1,084	1,028	979
1989-90	1,082	1,025	978
1990-91	1,071	1,016	970

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

VALLEY CITY STATE COLLEGE

YEAR	A	B	C
1979-80	829	829	829
1980-81	813	800	783
1981-82	815	788	770
1982-83	779	747	738
1983-84	730	696	694
1984-85	664	632	650
1985-86	610	577	614
1986-87	576	550	576
1987-88	545	518	564
1988-89	546	520	572
1989-90	537	512	569
1990-91	519	497	563

DICKINSON STATE COLLEGE

YEAR	A	B	C
1979-80	832	832	832
1980-81	834	812	791
1981-82	825	794	766
1982-83	821	780	743
1983-84	778	740	707
1984-85	739	705	671
1985-86	699	662	626
1986-87	649	621	589
1987-88	648	621	587
1988-89	653	621	591
1989-90	655	622	590
1990-91	664	627	597

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

MAYVILLE STATE COLLEGE

YEAR	A	B	C
1979-80	579	579	579
1980-81	550	541	533
1981-82	562	546	532
1982-83	529	509	492
1983-84	516	492	474
1984-85	467	444	426
1985-86	435	413	399
1986-87	415	394	380
1987-88	393	378	365
1988-89	401	384	370
1989-90	397	383	364
1990-91	400	385	361

MARY COLLEGE

YEAR	A	B	C
1979-80	591	591	591
1980-81	542	537	532
1981-82	464	457	448
1982-83	415	403	391
1983-84	405	390	378
1984-85	389	381	367
1985-86	379	367	358
1986-87	365	354	342
1987-88	361	348	334
1988-89	362	348	335
1989-90	361	348	333
1990-91	363	348	336

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980-1990

JAMESTOWN COLLEGE

YEAR	A	B	C
1979-80	290	290	290
1980-81	273	270	269
1981-82	262	258	256
1982-83	254	244	240
1983-84	243	233	227
1984-85	229	222	213
1985-86	216	211	199
1986-87	204	197	189
1987-88	197	192	184
1988-89	197	188	179
1989-90	194	183	174
1990-91	198	188	177

NORTH DAKOTA STATE SCHOOL OF SCIENCE

YEAR	A	B	C
1979-80	2,496	2,496	2,496
1980-81	2,503	2,419	2,338
1981-82	2,399	2,287	2,171
1982-83	2,254	2,151	2,043
1983-84	2,099	1,998	1,895
1984-85	1,929	1,835	1,741
1985-86	1,814	1,727	1,640
1986-87	1,702	1,625	1,539
1987-88	1,684	1,602	1,521
1988-89	1,754	1,668	1,583
1989-90	1,750	1,664	1,586
1990-91	1,700	1,615	1,537

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

BISMARCK JUNIOR COLLEGE

YEAR	A	B	C
1979-80	1,373	1,373	1,373
1980-81	1,407	1,363	1,319
1981-82	1,392	1,329	1,263
1982-83	1,345	1,274	1,214
1983-84	1,268	1,205	1,146
1984-85	1,199	1,148	1,087
1985-86	1,176	1,120	1,060
1986-87	1,087	1,037	985
1987-88	1,097	1,042	993
1988-89	1,162	1,106	1,050
1989-90	1,182	1,124	1,063
1990-91	1,149	1,097	1,036

LAKE REGION JUNIOR COLLEGE

YEAR	A	B	C
1979-80	397	397	397
1980-81	388	374	361
1981-82	392	367	351
1982-83	380	359	342
1983-84	341	326	309
1984-85	318	303	290
1985-86	282	269	255
1986-87	262	251	240
1987-88	258	248	235
1988-89	268	255	244
1989-90	275	258	246
1990-91	255	246	228

APPENDIX C (cont.)
Projected Full Time North Dakota Resident Undergraduate Enrollments
By Varying Entrance Assumptions By Institution
1980--1990

UND-WILLISTON CENTER

YEAR	A	B	C
1979-80	471	471	471
1980-81	479	463	450
1981-82	470	446	425
1982-83	444	421	402
1983-84	415	395	380
1984-85	383	364	345
1985-86	385	364	344
1986-87	388	367	346
1987-88	395	373	357
1988-89	423	400	381
1989-90	435	414	391
1990-91	437	415	394

NDSU-BOTTINEAU BRANCH

YEAR	A	B	C
1979-80	300	300	300
1980-81	289	283	278
1981-82	277	266	256
1982-83	262	250	241
1983-84	262	250	240
1984-85	249	242	230
1985-86	227	219	211
1986-87	229	214	203
1987-88	222	210	199
1988-89	229	217	207
1989-90	229	218	206
1990-91	226	215	202

APPENDIX D

Projected Postsecondary Headcount
1980--1990

NORTH DAKOTA

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	20,726	5,898	2,060	1,787	468	30,939
1980	20,259	6,147	2,088	1,790	468	30,752
1981	19,768	6,259	2,130	1,788	468	30,413
1982	19,057	6,037	2,170	1,786	468	29,518
1983	18,059	5,771	2,210	1,774	468	28,282
1984	16,928	5,442	2,250	1,750	468	26,838
1985	15,901	5,132	2,292	1,709	468	25,502
1986	14,936	4,841	2,332	11643	468	24,220
1987	14,511	4,681	2,376	1,567	468	23,603
1988	14,651	4,700	2,420	1,477	468	23,716
1989	14,693	4,692	2,460	1,390	468	23,703
1990	14,597	4,673	2,504	1,316	468	23,558

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

UNIVERSITY OF NORTH DAKOTA

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	5,509	2,382	196	1,108	468	9,663
1980	5,591	2,511	198	1,110	468	9,878
1981	5,641	2,633	202	1,109	468	10,053
1982	5,558	2,573	206	1,107	468	9,912
1983	5,281	2,481	210	1,100	468	9,540
1984	4,936	2,355	214	1,085	468	9,058
1985	4,607	2,226	218	1,060	468	8,579
1986	4,316	2,109	222	1,019	468	8,134
1987	4,116	2,302	226	972	468	7,814
1988	4,082	2,024	230	916	468	7,720
1989	4,096	2,020	234	862	468	7,680
1990	4,106	2,023	238	816	468	7,651

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

NORTH DAKOTA STATE UNIVERSITY

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	4,545	1,973	393	652		7,563
1980	4,437	2,085	399	653		7,574
1981	4,321	2,099	407	652		7,479
1982	4,162	2,062	414	652		7,290
1983	3,994	1,964	422	647		7,027
1984	3,756	1,847	430	639		6,672
1985	3,531	1,738	438	624		6,331
1986	3,319	1,634	443	600		5,996
1987	3,188	1,570	450	572		5,780
1988	3,187	1,568	450	539		5,744
1989	3,195	1,562	450	507		5,714
1990	3,179	1,561	450	480		5,670

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

MINOT STATE COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	1,992	143	56	27		2,218
1980	1,823	152	60	27		2,062
1981	1,727	142	65	27		1,961
1982	1,632	130	69	27		1,858
1983	1,531	123	72	27		1,753
1984	1,470	115	75	26		1,686
1985	1,366	109	80	25		1,580
1986	1,247	102	84	24		1,457
1987	1,233	100	88	23		1,444
1988	1,219	101	92	22		1,434
1989	1,207	101	96	21		1,425
1990	1,199	100	101	20		1,420

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

VALLEY CITY STATE COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	848	72	204			1,124
1980	806	75	200			1,081
1981	790	72	200			1,062
1982	747	68	200			1,015
1983	696	65	200			961
1984	632	61	200			893
1985	577	58	200			835
1986	551	54	201			806
1987	519	51	203			773
1988	524	52	209			785
1989	516	51	214			781
1990	504	50	218			772

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

DICKINSON STATE COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	919	102	16			1,037
1980	893	105	21			1,019
1981	868	105	24			997
1982	860	93	26			979
1983	817	87	30			934
1984	761	82	32			885
1985	723	78	36			837
1986	681	73	40			794
1987	681	70	43			795
1988	681	72	46			800
1989	687	73	50			810
1990	696	71	53			820

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

MAYVILLE STATE COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	598	103	50			751
1980	547	100	50			697
1981	550	93	51			694
1982	515	87	52			654
1983	497	83	53			633
1984	446	79	54			579
1985	415	74	55			544
1986	398	70	56			524
1987	384	68	57			509
1988	388	68	58			514
1989	387	68	59			514
1990	388	69	60			517

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

MARY COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	719	77	153			949
1980	683	82	155			920
1981	618	83	158			859
1982	591	79	161			831
1983	568	76	164			808
1984	548	71	167			786
1985	520	66	170			756
1986	491	63	173			727
1987	478	61	176			715
1988	479	60	179			718
1989	482	60	182			724
1990	492	61	185			738

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

JAMESTOWN COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	293	188	81			562
1980	273	194	80			547
1981	263	220	80			563
1982	252	176	80			508
1983	238	168	80			486
1984	226	158	80			464
1985	214	148	80			442
1986	200	138	80			418
1987	195	133	80			408
1988	191	132	85			408
1989	187	132	85			404
1990	193	132	90			415

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

NORTH DAKOTA STATE SCHOOL OF SCIENCE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	2,508	659	20			3,187
1980	2,427	638	21			3,086
1981	2,294	615	21			2,930
1982	2,154	581	22			2,757
1983	1,999	547	22			2,568
1984	1,838	510	23			2,371
1985	1,735	481	23			2,239
1986	1,628	453	23			2,104
1987	1,606	451	24			2,081
1988	1,671	472	24			2,167
1989	1,670	473	25			2,168
1990	1,619	459	25			2,103

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

BISMARCK JUNIOR COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	1,558	61	663			2,282
1980	1,572	62	672			2,306
1981	1,529	60	686			2,275
1982	1,475	57	693			2,231
1983	1,394	54	712			2,160
1984	1,329	50	725			2,104
1985	1,296	47	738			2,081
1986	1,207	44	751			2,002
1987	1,211	44	765			2,020
1988	1,281	46	779			2,016
1989	1,298	46	792			2,136
1990	1,266	45	806			2,117

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

LAKE REGION JUNIOR COLLEGE

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	397	20	158			575
1980	375	19	161			555
1981	371	18	164			553
1982	360	17	167			544
1983	326	16	170			512
1984	304	15	173			492
1985	269	14	176			459
1986	252	13	180			445
1987	248	14	183			445
1988	255	14	186			455
1989	259	14	189			462
1990	246	14	193			453

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

UNIVERSITY OF NORTH DAKOTA--WILLISTON CENTER

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	540	84				624
1980	548	88				636
1981	529	84				613
1982	500	80				580
1983	467	75				542
1984	430	70				500
1985	425	66				495
1986	432	62				494
1987	440	62				502
1988	475	65				540
1989	491	66				557
1990	494	63				557

APPENDIX D (cont.)
Projected Postsecondary Headcount
1980--1990

NORTH DAKOTA STATE UNIVERSITY--BOTTINEAU BRANCH

	Undergraduate		Special	Graduate	Professional	Total
	Resident	Nonresident				
1979	300	34	70			404
1980	284	36	71			391
1981	267	35	72			374
1982	251	34	74			359
1983	251	32	75			358
1984	242	29	77			348
1985	219	27	78			324
1986	214	26	79			319
1987	211	25	81			317
1988	217	26	82			325
1989	218	26	84			328
1990	215	25	85			325

APPENDIX D (cont.)

Projected Total Postsecondary Enrollment By Full Time And Headcount
1980--1984

	1979		1980		1981		1982		1983		1984	
	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count
UND	8,078	9,663	8,217	9,878	8,330	10,053	8,150	9,912	7,809	9,540	7,380	9,058
NDSU	6,667	7,563	6,675	7,574	6,581	7,479	6,393	7,290	6,127	7,027	5,787	6,672
Minot	1,916	2,218	1,773	2,062	1,672	1,961	1,575	1,858	1,479	1,753	1,416	1,686
Valley City	915	1,124	889	1,081	874	1,062	829	1,015	775	961	708	893
Dickinson	940	1,037	923	1,019	905	997	879	979	833	934	794	885
Mayville	684	751	643	697	641	694	598	654	577	633	525	579
Mary College	680	949	631	920	552	859	494	831	478	808	464	786
Jamestown College	499	562	485	547	499	563	441	508	425	486	405	464
NDSSS	3,158	3,187	3,060	3,086	2,905	2,930	2,735	2,757	2,548	2,568	2,348	2,371
BJC	1,459	2,282	1,450	2,306	1,414	2,275	1,357	2,231	1,285	2,160	1,224	2,104
Lake Region	417	575	393	555	385	553	376	544	342	512	318	492
UND-Williston	555	624	551	636	530	613	501	580	470	542	434	500
NDSU-Bottineau	334	404	319	391	301	374	284	359	282	358	271	348
TOTAL	26,302	30,939	26,009	30,752	25,589	30,413	24,612	29,518	23,430	28,282	22,074	26,838

APPENDIX D (cont.)
Projected Total Postsecondary Enrollment By Full Time and Headcount
1985--1990

	1985		1986		1987		1988		1989		1990	
	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count	Full Time	Head-count
UND	6,972	8,579	6,590	8,134	6,333	7,814	6,277	7,720	6,251	7,680	6,237	7,651
NDSU	5,453	6,331	5,136	5,996	4,924	5,780	4,912	5,744	4,888	5,714	4,858	5,670
Minot	1,310	1,580	1,205	1,457	1,190	1,444	1,177	1,434	1,173	1,425	1,162	1,420
Valley City	650	835	619	806	584	773	587	785	578	781	562	772
Dickinson	747	837	701	794	698	795	700	800	702	810	705	820
Mayville	489	544	466	524	448	509	454	514	453	514	456	517
Mary College	445	756	429	727	421	715	420	718	420	724	421	738
Jamestown College	384	442	360	418	350	408	345	408	340	404	345	415
NDSSS	2,211	2,239	2,081	2,104	2,056	2,081	2,143	2,167	2,140	2,168	2,077	2,103
BJC	1,196	2,081	1,110	2,002	1,115	2,020	1,181	2,106	1,199	2,136	1,171	2,117
Lake Region	283	459	264	445	262	445	269	455	272	462	260	453
UND-Williston	430	495	429	494	435	502	465	540	480	557	478	557
NDSU-Bottineau	246	324	240	319	235	317	243	325	244	328	240	325
TOTAL	20,816	25,502	19,630	24,220	19,051	23,603	19,173	23,716	19,140	23,703	18,972	23,558

APPENDIX D (cont.)

Projected Full Time North Dakota Resident Undergraduate Enrollment
1980--1990

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
UND	4,801	4,799	4,790	4,671	4,428	4,133	3,869	3,629	3,476	3,462	3,472	3,482
NDSU	4,288	4,181	4,072	3,920	3,754	3,536	3,320	3,120	2,990	2,999	3,000	2,987
Minot	1,723	1,571	1,478	1,392	1,303	1,249	1,150	1,053	1,041	1,028	1,025	1,016
Valley City	829	800	788	747	696	632	577	550	518	520	512	497
Dickinson	832	812	794	780	740	705	662	621	621	621	622	627
Mayville	579	541	546	509	492	444	413	394	378	384	383	385
Mary College	591	537	457	403	390	381	367	354	348	348	348	348
Jamestown College	290	270	258	244	233	222	211	197	192	188	183	188
NDSSS	2,496	2,419	2,287	2,151	1,998	1,835	1,727	1,625	1,602	1,668	1,664	1,615
BJC	1,373	1,363	1,329	1,274	1,205	1,148	1,120	1,037	1,042	1,106	1,124	1,097
Lake Region	397	374	367	359	326	303	269	251	248	255	258	246
UND-Williston	471	463	446	421	395	364	364	367	373	400	414	415
NDSU-Bottineau	300	283	266	250	250	242	219	214	210	217	218	215
TOTAL	18,970	18,413	17,878	17,121	16,210	15,194	14,268	13,412	13,039	13,196	13,223	13,118

APPENDIX D (cont.)

Projected Full Time Nonresident Undergraduate Enrollment
1980--1990

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
UND	2,120	2,249	2,371	2,311	2,219	2,093	1,964	1,847	1,770	1,762	1,758	1,761
NDSU	1,973	2,085	2,099	2,062	1,964	1,847	1,738	1,634	1,570	1,568	1,562	1,561
Minot	143	152	142	130	123	115	109	102	100	101	101	100
Valley City	72	75	72	68	65	61	58	54	51	52	51	50
Dickinson	102	105	105	93	87	82	78	73	70	72	73	71
Mayville	103	100	93	87	83	79	74	70	68	68	68	69
Mary College	77	82	83	79	76	71	66	63	61	60	60	61
Jamestown College	188	194	220	176	168	158	148	138	133	132	132	132
NDSSS	659	638	615	581	547	510	481	453	451	472	473	459
BJC	61	62	60	57	54	50	47	44	44	46	46	45
Lake Region	20	19	18	17	16	15	14	13	14	14	14	14
UND-Williston	84	88	84	80	75	70	66	62	62	65	66	63
NDSU-Bottineau	34	36	35	34	32	29	27	26	25	26	26	25
TOTAL	5,636	5,885	5,997	5,775	5,509	5,180	4,870	4,579	4,419	4,438	4,430	4,411

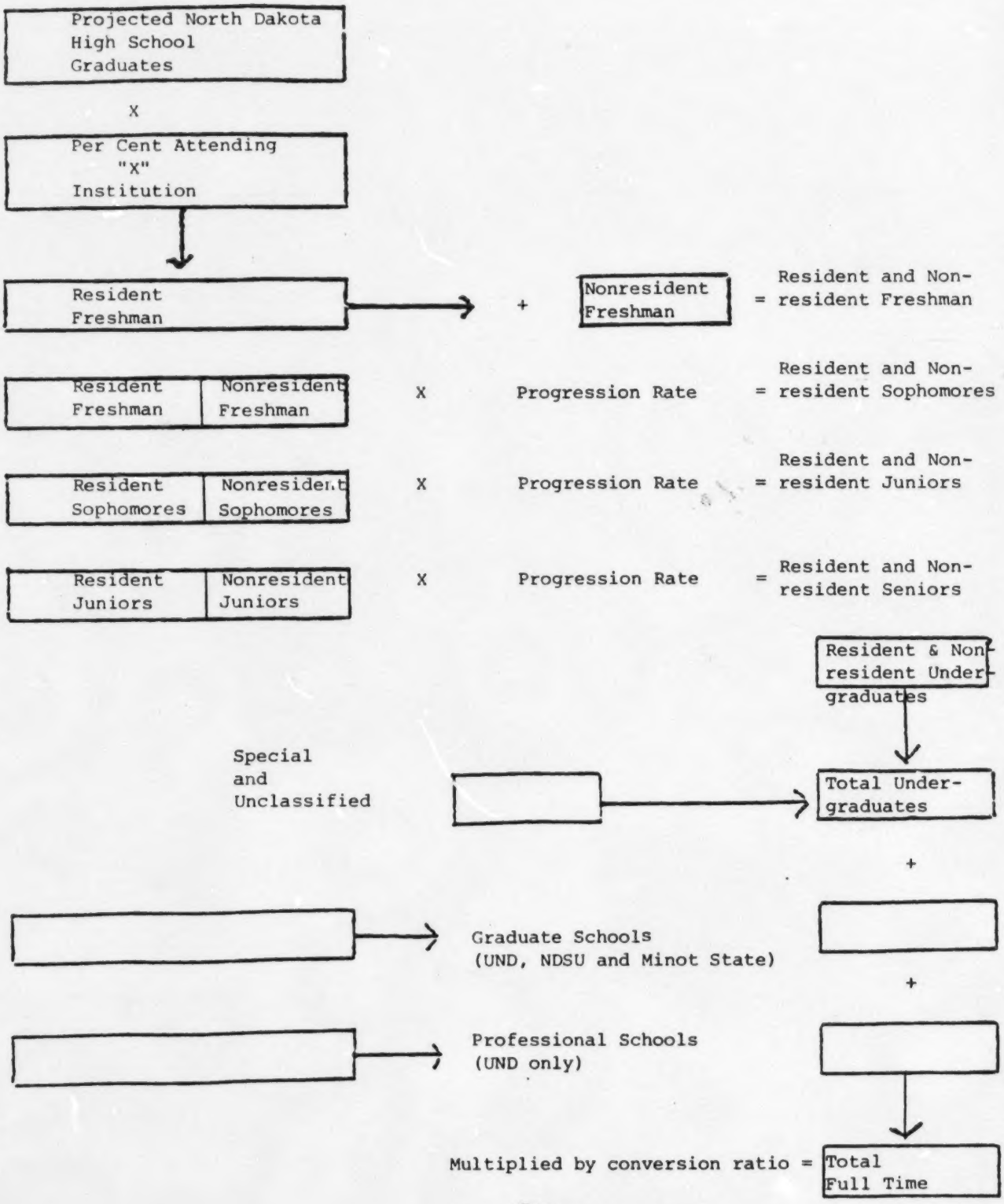
APPENDIX D (cont.)

Projected Full Time Special and Unclassified Enrollment
1980--1990

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
UND	39	40	40	40	40	40	40	40	40	40	40	40
NDSU	21	23	25	26	26	26	26	26	26	26	26	26
Minot	23	23	25	26	26	26	26	26	26	26	26	26
Valley City	14	14	14	14	14	15	15	15	15	15	15	15
Dickinson	6	6	6	6	6	7	7	7	7	7	7	7
Mayville	2	2	2	2	2	2	2	2	2	2	2	2
Mary College	12	12	12	12	12	12	12	12	12	12	12	12
Jamestown College	21	21	21	21	24	25	25	25	25	25	25	25
NDSSS	3	3	3	3	3	3	3	3	3	3	3	3
BJC	25	25	25	26	26	26	29	29	29	29	29	29
Lake Region	--	--	--	--	--	--	--	--	--	--	--	--
UND-Williston	--	--	--	--	--	--	--	--	--	--	--	--
NDSU-Bottineau	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL	166	169	173	176	179	182	185	185	185	185	185	185

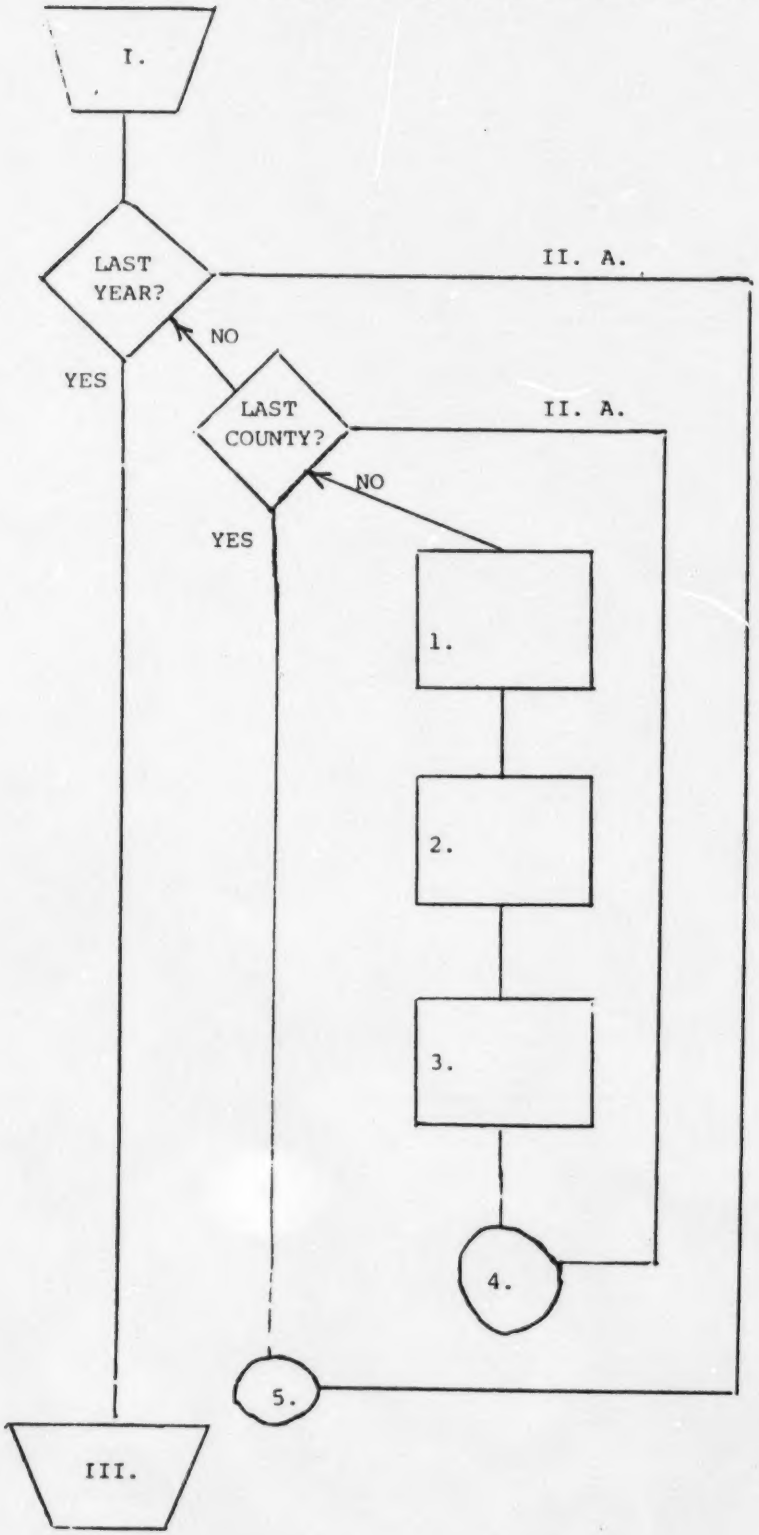
APPENDIX E

Full Time Postsecondary Enrollment Projections
By State and By Institution



APPENDIX E (cont.)

Program Flow Diagram
Elementary/Secondary Enrollment Model



I. DATA INPUT
- A. Live Births by County by Year
- B. Enrollment by County by Grade for Base Year 1979-80
- C. Progression Rates--Grades 1 Through 12, Birth to Grade 1 and Grade 12 to High School Graduation

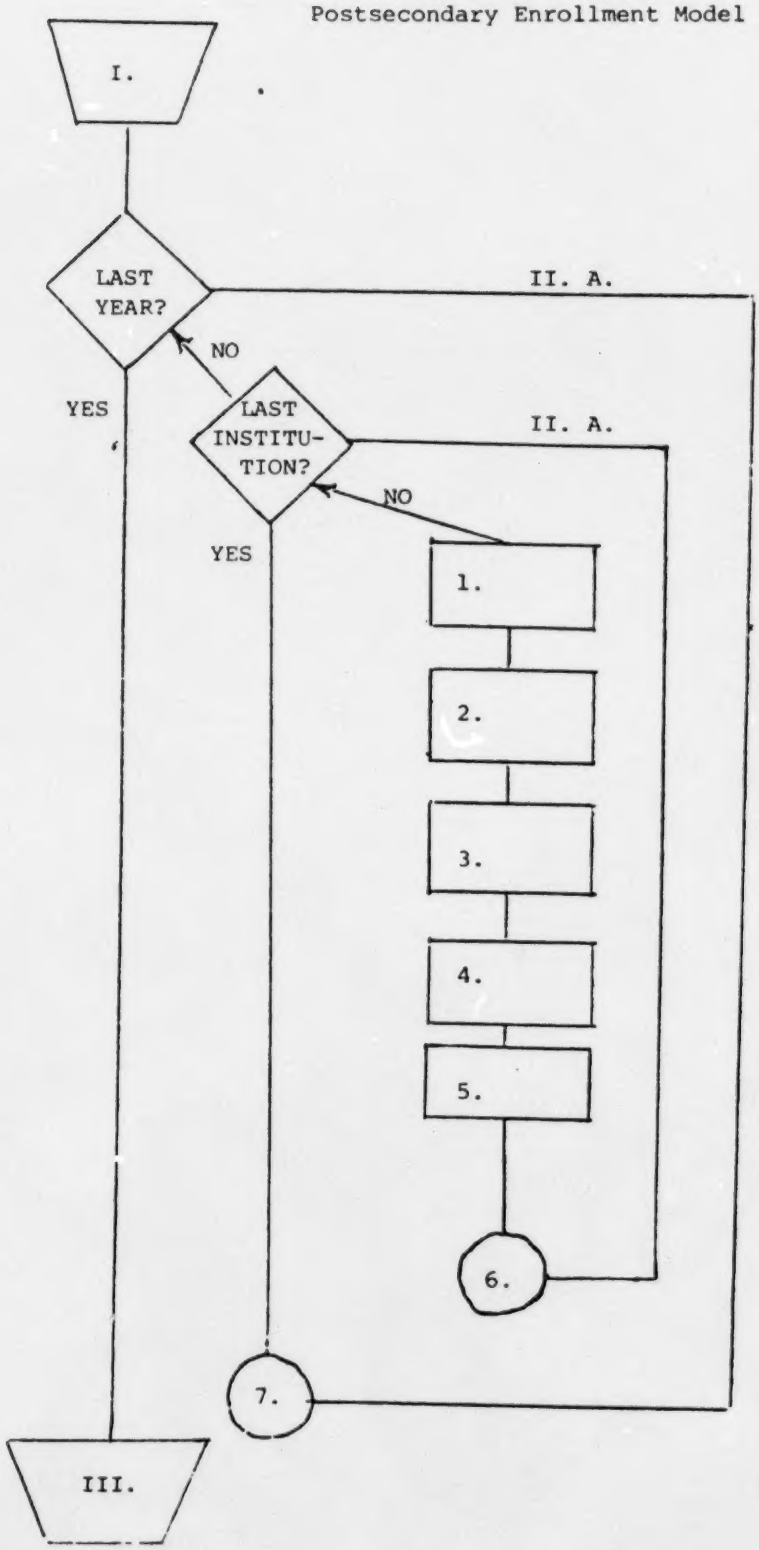
II. ANNUAL PROJECTION LOOP
- A. Calculation Loop

1. Grade 1 Projection
2. Grades 2 Through 12 Progression
3. High School Graduate Projection
4. County Sum, Grades 1-12, High School Graduate
5. State Sum, Grades 1-12

III. OUTPUT SECTION

APPENDIX E (cont.)

Program Flow Diagram
Postsecondary Enrollment Model



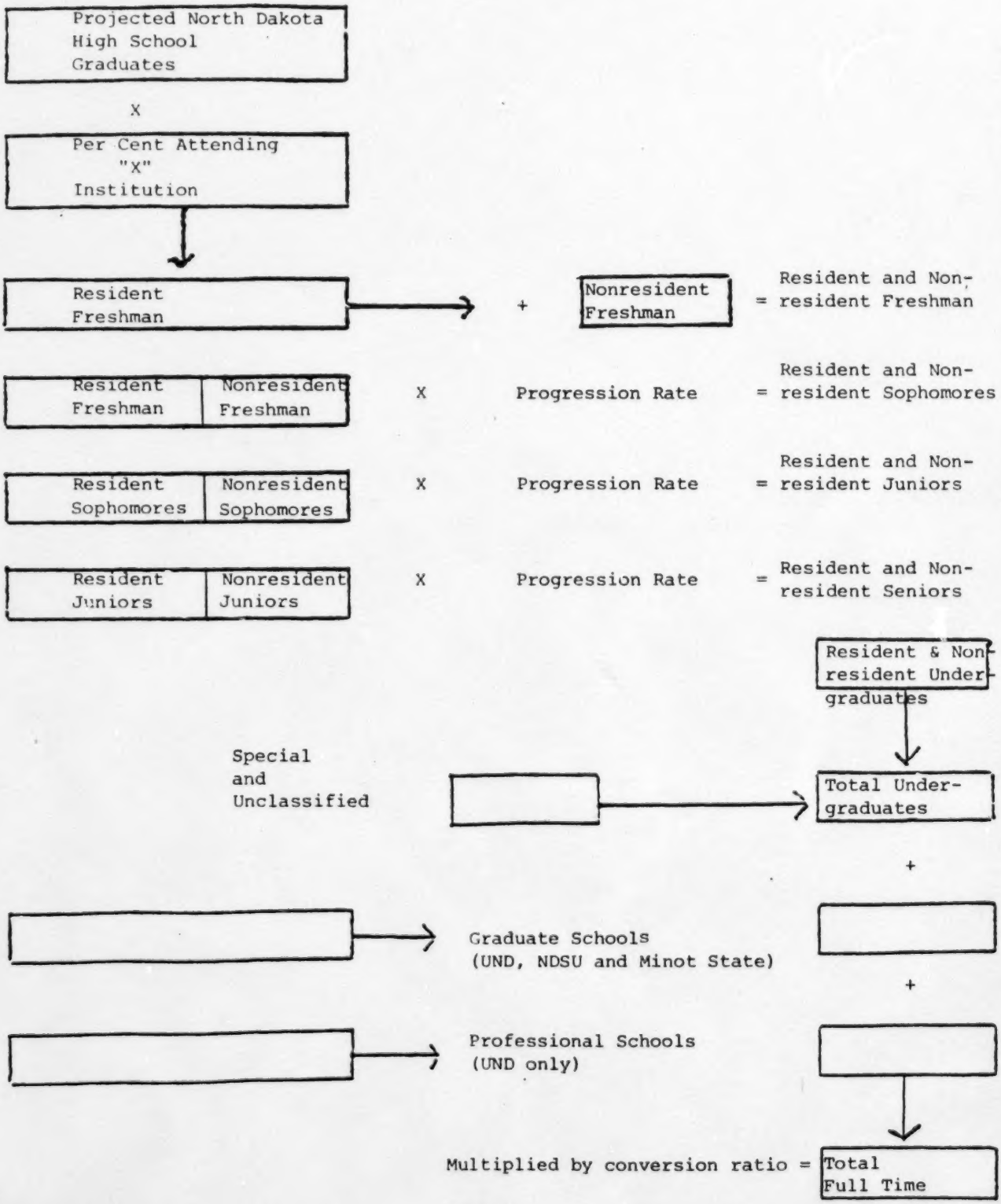
I. DATA INPUT
- A. High School Graduates by Year
- B. High School Graduate to Freshman Progression Rate
- C. Base Year College Enrollment by Class, by Institution
- D. Base Year Nonresident Freshman
- E. Class Progression Rates by Institution

II. ANNUAL PROJECTION LOOP
- A. Calculation Loop
  1. North Dakota Freshman Projection
  2. Nonresident Freshman Projection
  3. Resident and Nonresident Freshman
  4. Class Progression Freshman Through Senior North Dakota Residents
  5. Class Progression Freshman Through Senior Non-North Dakota Residents
  6. Institution Sum
  7. State Sum

III. OUTPUT SECTION

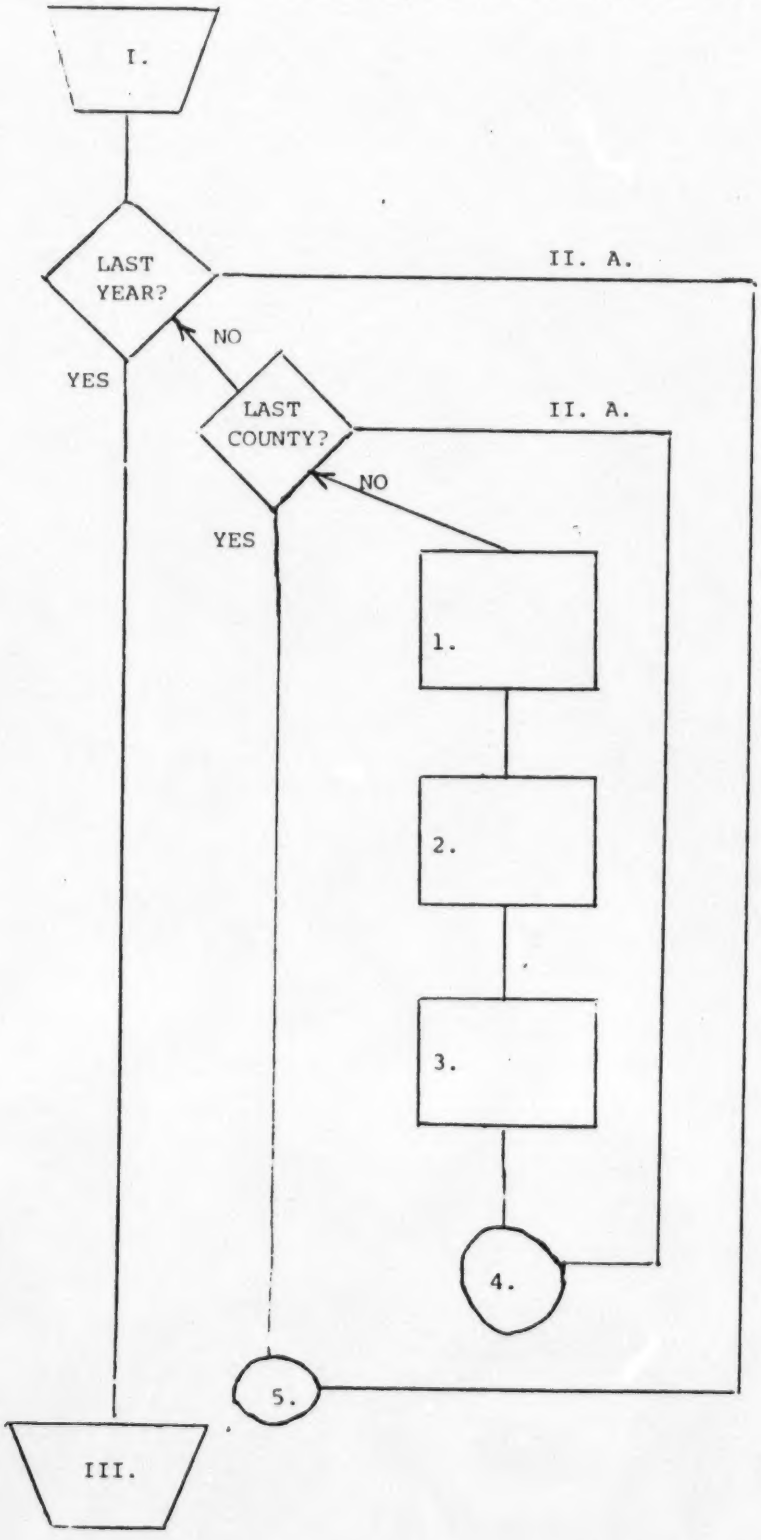
APPENDIX E

Full Time Postsecondary Enrollment Projections
By State and By Institution



APPENDIX E (cont.)

Program Flow Diagram
Elementary/Secondary Enrollment Model

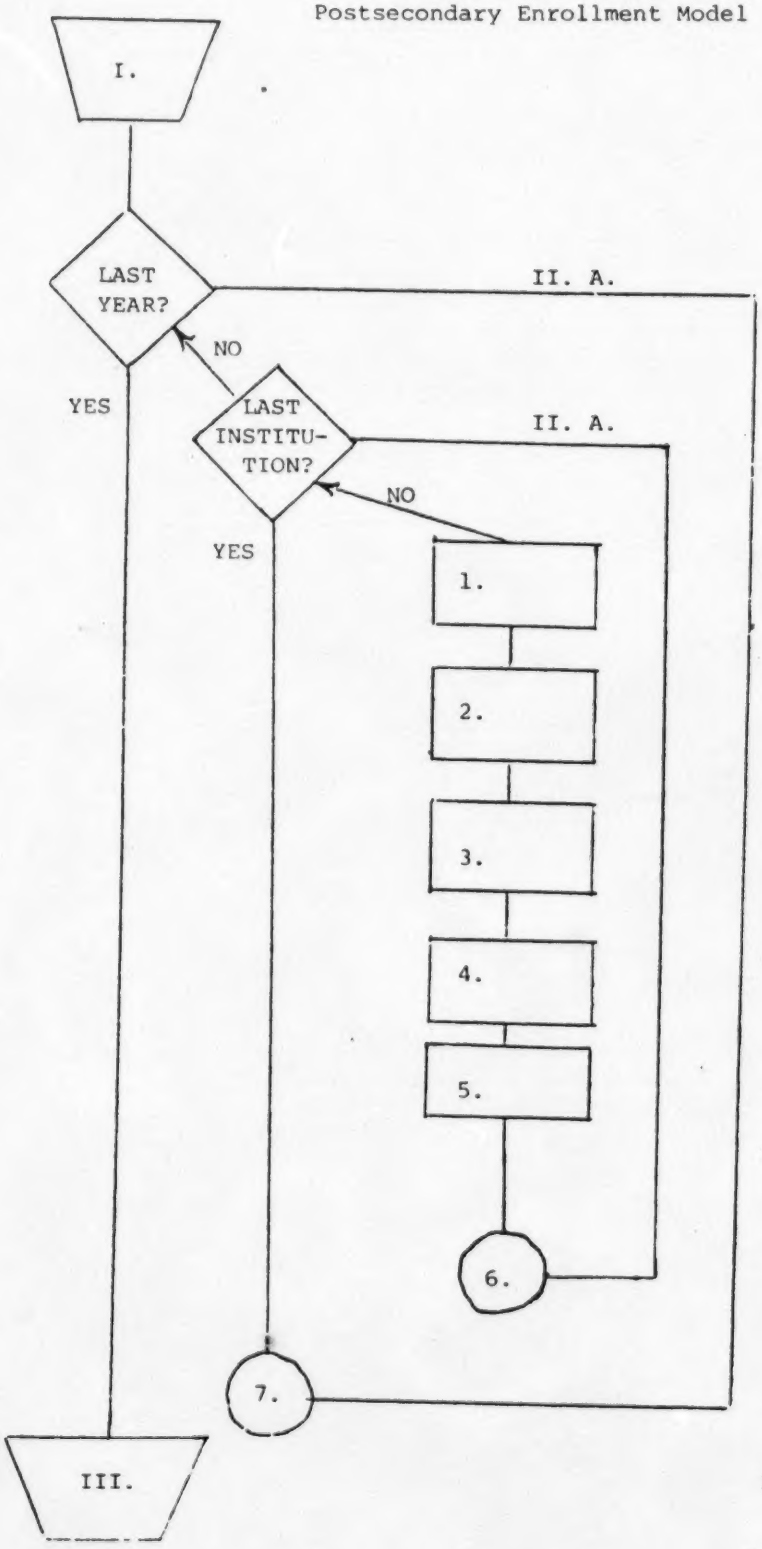


I. DATA INPUT
- A. Live Births by County by Year
- B. Enrollment by County by Grade for Base Year 1979-80
- C. Progression Rates--Grades 1 Through 12, Birth to Grade 1 and Grade 12 to High School Graduation

II. ANNUAL PROJECTION LOOP
- A. Calculation Loop
  - 1. Grade 1 Projectio
  - 2. Grades 2 Through 12 Progression
  - 3. High School Graduate Projection
  - 4. County Sum, Grades 1-12, High School Graduate
  - 5. State Sum, Grades 1-12

III. OUTPUT SECTION

Program Flow Diagram
Postsecondary Enrollment Model



I. DATA INPUT
- A. High School Graduates by Year
- B. High School Graduate to Freshman Progression Rate
- C. Base Year College Enrollment by Class, by Institution
- D. Base Year Nonresident Freshman
- E. Class Progression Rates by Institution

II. ANNUAL PROJECTION LOOP
- A. Calculation Loop
  1. North Dakota Freshman Projection
  2. Nonresident Freshman Projection
  3. Resident and Nonresident Freshman
  4. Class Progression Freshman Through Senior North Dakota Residents
  5. Class Progression Freshman Through Senior Non-North Dakota Residents
  6. Institution Sum
  7. State Sum

III. OUTPUT SECTION

APPENDIX D (cont.)

Projected Full Time Graduate Enrollment
1980--1990

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
UND	650	661	661	660	654	646	631	606	579	545	513	486
NDSU	385	386	385	385	383	378	369	356	338	319	300	284
Minot	27	27	27	27	27	26	25	24	23	22	21	20
Total	1,062	1,074	1,073	1,072	1,064	1,050	1,025	986	940	886	834	790